

EXHIBIT D

2022 HTA Fiscal Plan

**Fiscal Plan for the Puerto Rico Highways &
Transportation Authority (HTA)**

FY2022-FY2051

**Fiscal Plan Certified by the Financial Oversight and
Management Board for Puerto Rico on February 22, 2022**

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- The amount and timing of receipt of any distributions from the Federal Emergency Management Agency and private insurance companies to repair damage caused by Hurricanes Maria and Irma, earthquakes and the COVID-19 pandemic;
- The amount and timing of receipt of any amounts allocated to Puerto Rico and provided under the Community Disaster Loans Program;
- The amount and timing of any additional amounts appropriated by the United States government to address the impacts of the COVID-19 pandemic;
- The amount and timing of receipt of any additional amounts appropriated by the United States government to address the funding gap described herein;
- The timeline for completion of the work being done by the Puerto Rico Electric Power Authority ("PREPA") to repair PREPA's electric system and infrastructure and the impact of any future developments or issues related to PREPA's electric system and infrastructure on Puerto Rico's economic growth;
- The impact of the COVID-19 pandemic on the financial, social, economic and demographic condition of Puerto Rico;
- The impact of the measures described herein on outmigration; and
- The impact of the resolution of any pending litigation in the Title III cases

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List of Acronyms and Key Terms

2022 HTA Fiscal Plan	Refers to this Fiscal Plan, certified in February 2022
2020 Certified Fiscal Plan	HTA Fiscal Plan certified by the Financial Oversight and Management Board in June 2020
2021 Certified Fiscal Plan	HTA Fiscal Plan certified by the Financial Oversight and Management Board in May 2021
AAFAF	Puerto Rico Fiscal Agency and Financial Advisory Authority (Spanish acronym)
ACI	American Concrete Institute
AFC	Automatic Fare Collection system
Agency, Authority	Refers to the Puerto Rico Highway and Transportation Authority
AMA	Puerto Rico Metropolitan Bus Authority
AQI	Air Quality Index
ARP	American Rescue Plan
ATM	Maritime Transport Authority
B2A	Budget to Actuals monthly report provided to FOMB from HTA
BIL	Bipartisan Infrastructure Law
BRT	Bus Rapid Transit
CAGR	Compound Annual Growth Rate
CapEx	Capital expenditures
CARES	Coronavirus Aid, Relief and Economic Security Act funding
CDFO	Chief Discretionary Funds Officer, a designated member of the discretionary grant management team
CBDG	Community Development Block Grant
CDBG-DR	Community Development Block Grant Disaster Recovery Program
CDBG-MIT	Community Development Block Grant Mitigation Program
CFR	Code of Federal Regulations
CIG	Capital Investment Grants
CIP	Capital Improvement Plan
CO	Change Orders
CW Certified Fiscal Plan	Commonwealth of Puerto Rico Fiscal Plan certified in April 2021
CPI	Consumer Price Index, or inflation
CW	Commonwealth of Puerto Rico
DB	Design-Build Contracting
DDFO	Deputy Discretionary Funds Officer, a designated member of the discretionary grant management team
DDIR	Detailed Damage Inspection Reports
DOH	Department of Health
DOJ	Department of Justice
DPS	Department of Public Safety
DTL	Dynamic toll lane for transit system
DTOP	Departamento de Transportación y Obras Públicas
ER	Emergency Repair
EFL	Eastern Federal Lands – Division of US Federal Highway Administration
EFLHD	Eastern Federal Lands Highway Division
EFT	Electronic Funds Transfers
ETC	Electronic Toll Collection
ETFC	Electronic Toll Fine Collection
EWO	Extra Work Orders
FAHP	Federal-Aid Highway Program
FAST	Fixing America's Surface Transportation Act funding
Federal Government	The United States Federal Government
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
FOMB	Financial Oversight and Management Board for Puerto Rico
FRR	Farebox recovery ratio
FTA	Federal Transit Administration
GNP	Gross National Product
Government	Government of Puerto Rico
Governor	Governor Pedro Rafael Pierluisi Urrutia
HTA	Refers to Puerto Rico Highway and Transportation Authority
Hacienda	Puerto Rico Department of Treasury
Hurricanes	Hurricane Irma and Hurricane Maria
Island	Puerto Rico
ITS	Integrated Transportation System
KPIs	Key Performance Indicators
June 2020 Certified Fiscal Plan	HTA Fiscal Plan certified by the Financial Oversight and Management Board in May 2020
L RTP	Long Range Transportation Plan
Metropistas	Autopistas Metropolitanas de Puerto Rico, LLC
MOAs	Memoranda of Agreement
MOU	Memorandum of Understanding
NEPA	National Environmental Policy Act
NHS	National Highway System
NTP	Notice to Proceed

OOH	Out of Home advertising
OpEx	Operating Expenditures
ORT	Open Road Tolling
P&L	Profit and Loss
P3A	Puerto Rico Public-Private Partnerships Authority
PCI	Payment Card Industry-compliant
PEMOC	Programa Estatal de Modernización de Carreteras
PIC	Payment Card Industry
PMIS	Project Management Information Systems
POA	Plan of Adjustment
POS	Point-of-sale machines, used to process card payments at transit stations
PPP/P3	Public-Private Partnership
PR	Puerto Rico
PRASA	Puerto Rico Aqueduct and Sewer Authority
PREPA	Puerto Rico Electric and Power Authority
PRHP	Puerto Rico Highway Program
PRHTA (or HTA)	Puerto Rico Highway and Transportation Authority
PRITA	Puerto Rico Integrated Transit Authority
PROMESA	Puerto Rico Oversight, Management and Economic Stability Act
PS&E	Plans, Specifications and Estimate package
RAISE	Rebuilding American Infrastructure with Sustainability and Equity (RAISE) grant, formerly known as BUILD and TIGER
RFI	Request for Information
RFP	Request for Proposal
ROW	Right of Way
RSS	Roadside equipment
SOGR	State of Good Repair
SOP	Standard Operating Procedure
TAMP	Transportation Asset Management Plan
TOD	Transit-Oriented Development
TPB	Transportation Policy Board
TSR	Transportation Sector Reform
TU	Tren Urbano transit system
TVM	Ticket Vending Machines
USDOT	The United States Department of Transportation
USHUD	The U.S. Department of Housing and Development
VTP	Voluntary Transition Program
VRM	Vehicle Revenue Miles
USVI	The United States Virgin Islands
YTD	Year to Date

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PART I – EXECUTIVE SUMMARY

Every resident of Puerto Rico deserves safe, well-maintained roads and an efficient and reliable transportation system

A well-functioning transportation system at its core provides mobility: allowing residents to travel where they want, when they want, safely and affordably. A well-performing transportation system is critical to the safe and affordable movement of goods and people. The Puerto Rico Highways and Transportation Authority (HTA) is a key stakeholder in Puerto Rico's transportation sector, responsible for a majority of the roads and key parts of the transit system. As such, HTA has critical influence in determining the current and future state of the transportation sector of Puerto Rico.

Unfortunately, Puerto Rico's current transportation system lags national standards for quality, safety, and reliability. Only 13%¹ of Puerto Rico's highways are in good condition, compared to a median of 84% in the U.S., while fatality rates are ~43% higher than the U.S. median.² In addition, because of a lack of a reliable mass transportation system, residents are forced to rely on private vehicles for transportation, resulting in increased congestion, higher costs, and limited mobility and accessibility for lower-income residents. The San Juan metropolitan area is one of the most congested cities in the US.³ Drivers lose 58 hours each year to traffic congestion at a cost of \$1,150 per driver and \$400 million to the city.⁴ Meanwhile, Tren Urbano ("TU"), the Island's only passenger train system, has one of the lowest levels of ridership among transit systems in North America, with approximately 5 million annual riders prior to the start of COVID-19, below Miami's Metrorail (19m), Cleveland's RTA (6m), Baltimore's SubwayLink (8m) and Philadelphia's PATCO Speedline (11m). TU, as a transit system, has the worst financial performance in North America, currently recovering only 4 cents of every dollar of operational cost, while its peers currently recover approximately 12 cents (and 25 cents prior to COVID) on average.⁵

The transportation sector needs to undergo significant reform to transform its performance to support the Island's economic development and recovery. The 2022 HTA Fiscal Plan provides a roadmap for transformation of the transportation system, which should enable HTA to achieve fiscal responsibility and access to the capital markets.

As the entity responsible for Puerto Rico's major highways and heavy rail, HTA plays a key role in shaping the future of the transportation network, as well as achieving financial responsibility and access to the capital markets. Among HTA's objectives, four tie directly to

¹ From PRHTA Budget-to-Actuals reporting for FY21 end of fiscal year.

² 1.96 fatalities per 100 Vehicle Miles Traveled versus 1.37 US median in 2020. National Highway Traffic Safety Administration. 2020 fatality data: <https://www.nhtsa.gov/press-releases/2020-fatality-data-show-increased-traffic-fatalities-during-pandemic>; 2020 road condition data: <https://www.fhwa.dot.gov/policyinformation/statistics/2020/hm64.cfm>

³ San Juan has the seventh-longest average commute at 31.2 minutes.

⁴ Costs include lost productivity, increased freight movements costs, higher operating costs and decreased reliability See: <https://static.tti.tamu.edu/tti.tamu.edu/documents/mobility-report-2019.pdf>; <https://inrix.com/scorecard-city/?city=San%20Juan%2C%20PR&index=163>

⁵ Ridership Data: Public Transportation Ridership Report, American Public Transportation Association, Found online at: <https://www.apta.com/wp-content/uploads/2018-Q4-Ridership-APTA.pdf> / Farebox Recovery: National Transit Database, Found online at: <https://www.transit.dot.gov/ntd/ntd-data>

broader transportation sector reform: (1) promote the safe and easy movement of vehicles and individuals; (2) reach and maintain a minimum threshold “State of Good Repair” (SOGR) to ensure the people of Puerto Rico have access to quality roads and modes of transportation; (3) contribute to the development of Puerto Rico; (4) build a strong, resilient road network by strengthening assets that are prone to natural disasters.

Achieving these objectives requires HTA to become fiscally sustainable and operationally efficient. There are three root causes of the challenges facing the sector:⁶

- 1) Individual modes of transportation having overlapping and fragmented ownership;
- 2) Deficient performance management within individual modes of transportation and little multi-modal coordination; and
- 3) Systemic failure to maximize potential public and private funding.

To address these issues, six reforms are proposed in the 2022 HTA Fiscal Plan:

- 1) Restructure transportation assets into mode specific entities (e.g., toll roads, non-toll roads, mass transit);
- 2) Create an overarching Transportation Policy Board to guide multi-modal transportation strategy across the Island;
- 3) Develop and use objective frameworks for project selection;
- 4) Improve performance management through integrating public systems, performance-based contracts and better supervision of contractors;
- 5) Enhance effectiveness of governance by reforming governing boards, where relevant, to include fewer political appointees and more subject-matter experts; and
- 6) Maximize funding from non-Commonwealth sources, through a more comprehensive federal grants strategy, and improved bankability to attract private capital.

As the entity primarily responsible for toll roads, non-toll roads, and transit assets, HTA must work with other transportation entities on the island (e.g., DTOP⁷, PRITA⁸) to ensure the successful execution of a sector-wide reform. The 2022 HTA Fiscal Plan advances plans towards these reforms, providing the greatest detail yet on implementation and potential impact across these recommendations.

The 2022 HTA Fiscal Plan places specific emphasis on the restructuring and separation of Puerto Rico’s transportation assets. The current state, where several different agencies have overlapping control and responsibilities of toll-roads, non-toll roads, and transit agencies, leads to inefficiencies, lack of coordination and poor outcomes for citizens. To solve this, the transportation sector reform calls for the segmentation of transport assets across three distinct asset classes: non-toll roads, toll roads, and an integrated transit system. The proposed implementation approach would achieve the segmentation through the following:

⁶ On January 27, 2021, in a letter pursuant to Puerto Rico Oversight, Management and Economic Stability Act (“PROMESA”) section 205(a), the Financial Oversight and Management Board (FOMB) outlined the root causes of challenges facing the sector and recommendations to reform the transportation sector.

⁷ Puerto Rico’s Department of Transportation and Public Works (DTOP by its Spanish acronym)

⁸ Puerto Rico Integrated Transit Authority (PRITA)

- **Integrating all transit assets under PRITA:** HTA should transfer all its transit assets to PRITA to empower PRITA to fulfill its original mission as a unitary transit authority.
- **Maintaining toll roads and non-toll roads under HTA with ring-fenced structure between these asset classes:**⁹ HTA should assume construction and maintenance responsibility of toll- and non-toll roads with clear internal separation (legal, financial and operational), by moving toll assets to a toll-road management office.
- **Preparing and advancing a future toll-road concession for further structural independence as the Puerto Rico Public-Private Partnerships Authority (“P3A”) continues to evaluate the viability of a toll-road concession:** The separation of toll-road assets into a newly created office should streamline potential public-private partnership (“P3”) processes, reinforcing HTA’s commitment to a fiscally sustainable toll-road operation.

The proposed restructuring should support HTA’s exit from Title III. The separation of assets across toll, non-toll and transit ends the cross-subsidization across assets and provides greater clarity of the sustainability and financial requirements of each. The asset-specific revenue, expenditures, surpluses, and deficits specify the funding requirements and fund availability across toll, non-toll and transit assets. For non-toll roads and transit assets, the forecasted deficits indicate the level of support required from the Commonwealth through funding transfers. Forecasted surpluses at the toll-road management office can provide the basis for debt service, investment and other internal and external obligations.

Achieving the full vision and impact of the transportation sector reform hinges on the successful execution of priority fiscal measures and delivering on the full scope of historic levels of capital investments.

To achieve lasting change, these reforms should be adopted in conjunction with the fiscal measures laid out to improve revenue generation and restore capital delivery outcomes for HTA’s responsibilities. In recent years, including through Fiscal Year (“FY”) 2022 to date, HTA failed to make progress on key initiatives designed to improve its ability to deliver on its core objectives, particularly in enhancing revenues and improving operational efficiency and accountability. While there continues to be progress in the rate of disbursements in the capital program—notable given the challenges of the COVID-19 pandemic—realizing the transformation will require a renewed commitment from HTA to reform its operating model, sustain revenue streams and accelerate capital project delivery.

These sector reforms and fiscal measures remain critical to HTA’s sustainable future. HTA is currently approximately \$6.6 billion in debt. Since HTA entered Title III in May 2017, HTA has had insufficient cash flows to service its outstanding debt and has not made payments since July 2017. Based on the Fiscal Plan projections on cash flow, the existing HTA debt service will require significant restructuring and HTA’s full commitment to delivering results across the following areas:

- **Increasing revenues to support fiscal responsibility:** The 2022 HTA Fiscal Plan requires HTA to ensure the funding availability for the transportation system by enhancing operating revenues in toll fares and toll fines and in the transit system via enhancements

⁹ Details on the steps to accomplish the effective segregation of the toll roads, through the separation of accounting, labor force, contracting and governance, and the preparations required at HTA to take up additional maintenance responsibilities for non-toll roads from DTOP, are outlined in Chapter 1.

to performance. Toll fares require modest annual increases and bi-directional tolling implementation to keep up with growing costs and investment requirements. An enhanced toll fine structure should reward early payment. A series of transit enhancements should increase ridership, and thus farebox revenues, for TU.¹⁰

- **Maximizing the availability and deployment of federal funds:** HTA has repeatedly failed to deploy the full availability of its annual federal formula funding and historically has received far below its fair share of discretionary funds. The cost of inaction and poor management of federal funding opportunities has never been greater, given the approval of Community Block Development Grants (CDBG-DR) for Puerto Rico, and the enactment of the Bipartisan Infrastructure Law (BIL). HTA must develop a plan to disburse the estimated \$1.5 billion transportation share of the \$10 billion of CDBG-DR approved for Puerto Rico for special recovery projects.¹¹ HTA should further increase its pursuit of discretionary opportunities given ~\$100 billion of new competitive transportation grant programs in the BIL. If HTA receives its fair share of discretionary federal grants (e.g., 1% of total, proportionate to share of US population), investment into the system would increase by ~\$90m per year, or as much as \$2.7 billion cumulatively over 30 years.
- **Executing an ambitious capital program to restore the system's condition and performance:** The 2022 HTA Fiscal Plan empowers the Authority to execute a \$11.6 billion capital investment program¹² in FY22-51 across highways and transit, prioritizing restoration of the highway system to SOGR. The plan further supports the pursuit of discretionary projects to enhance capacity in strategic corridors, manage congestion and promote economic development. The proposed capital program increases annual disbursements from \$212M, on average, in FY13-FY18, to approximately \$386 million in capital investments from FY22-FY51. These investments would be enabled by the BIL, which is projected to increase the federal funding allocated to HTA for highway and bridge construction by \$1.1 billion during FY22-51, plus an opportunity to compete for the ~\$100 billion in new discretionary transportation grants, of which ~\$90 million per year could be potentially allocated to Puerto Rico. funding would provide HTA with a generational opportunity to transform the Puerto Rican transportation system. Executing these investments will require a step-change in performance and a successful grant application strategy. Changes in HTA's governance and operating practices, including managerial improvements in project delivery outlined in its Memorandum of Understanding ("MOU") with the Federal Highway Administration ("FHWA"), will be critical to enabling it to improve the system safely and sustainably.
- **Adjusting the Authority's debts through Title III:** HTA entered its Title III case with approximately \$6.6 billion in debt. Although HTA should start generating annual operational surpluses when the fiscal measures in this plan are implemented, these surpluses would not be sufficient to repay the entire outstanding debt amount. HTA's existing debt burden is therefore unsustainable and will need to be substantially reduced through a Title III plan of adjustment.

¹⁰ Tren Urban only receives 4 cents for every dollar it costs to operate, or a 4% farebox revenue ratio (FRR) for FY22 as of December 2021. FY21 FRR is close to 2% due to shutdown periods in 2020.

¹¹ For the latest actuals on CDBG-DR, published in November 2021, please see: <https://cdbg-dr.pr.gov/en/download/action-plan-amendment-7-substantial-effective-on-november-5-2021/>

¹² Including \$0.8 billion in transit and toll optimization. Excluding these, the Fiscal Plan calls for \$10.8 billion in highway-related capital expenditures. This does not include discretionary funding opportunities including CDBG-DR and BIL programs, as referenced above.

The projected impact of these fiscal measures is approximately \$6.0 billion over FY22-51, turning a forecasted \$1.2 billion deficit to a cumulative surplus of \$4.8 billion. These measures will enable necessary investments, fiscal sustainability, and affordable restructuring of debt. Without measures for improvement, the level of the Authority's dependence on cash transfers from the Commonwealth is unsustainable.

HTA's recent track record underscores the required focus on implementation. HTA has made limited progress implementing the measures included in the 2021 Certified Fiscal Plan. This lack of progress results in a lack of incremental funding that could be further invested in enhancing the system's performance condition and outcomes. Non-implementation of measures for toll fare and toll fine increases and optimizing toll collection left an estimated \$25 million in incremental revenue uncaptured in FY21 alone, robbing funding from a system in desperate need of investment, given the 's condition and performance shortfalls. Furthermore, for FY22 year-to-date, Capex construction disbursements are below budget for the federal construction program (~12% variance), the non-federal construction program (~11% variance) and the emergency repair program (~40% variance).¹³

Taken together, the transportation sector reform and fiscal measures, combined with potentially unprecedented levels of federal funding thanks to BIL, present a generational opportunity to create a new trajectory for the transportation sector in Puerto Rico. This sector could unlock economic development while promoting a safer, more sustainable, and more equitable future, for all Puerto Ricans.

¹³ HTA December 2021 Budget-to-Actuals reporting data (reported in January 2022).

PART II - TRANSPORTATION REFORM

CHAPTER 1: TRANSPORTATION SECTOR REFORM (TSR)

The transportation sector is essential for both economic and social development in Puerto Rico, given its critical role in facilitating the movement of goods and people on the Island. A well-performing transportation system can increase access to jobs and business opportunity, unlocking the productive potential of residents and firms. In turn, a transportation system can increase economic output and invite further private investment.

Meanwhile, a poorly performing system can mire its residents in wasted time, inequitable access to jobs and opportunities, fractured communities and productivity losses. Puerto Rico is currently suffering from several of these factors.

As outlined in the Executive Summary, Puerto Rico's transportation sector currently underperforms across a range of outcomes, including congestion, safety and road quality. In 2020, HTA reported to FHWA that 12% of Puerto Rico's lane miles are in "poor" condition; federal law mandates that no more than 5% of lane miles may be in a "poor" state for pavement conditions on the Interstate System.^{14,15} As a result, for the second consecutive year, FHWA imposed a penalty and constraints on some portion of its federal allocated funds.¹⁶

The state of public transit infrastructure and management in Puerto Rico deserves special focus given its many challenges. Congestion is increasing in many metropolitan areas, creating additional delays for commuting and transportation of goods. High congestion is due in part to the minimal use of mass transit; the San Juan metro area has 37,000 more households commuting by private vehicle than would be expected if mass-transit usage matched the U.S. average.¹⁷ As a result of the extra vehicle journeys, San Juan experiences two additional weeks of low air-quality days per year, compared to the U.S. average.¹⁸ Worse yet, NO_x and PM_{2.5} emissions from vehicles are statistically associated with higher mortality rates in the local population.¹⁹ The current transit system suffers from limited efficiency, route coordination, operational cohesiveness and accessibility. These issues result in higher congestion and reduced mobility, particularly for low-income residents who experience long commutes or are forced to bear the costs of owning a private vehicle.

¹⁴ As defined by 23 USC 103(c)

¹⁵ 23 USC 119(f)(1) and 23 CFR 490.315

¹⁶ In a letter dated September 30, 2020, FHWA informed HTA the determination regarding pavement conditions in the Interstate System. After analyzing the 2019 Interstate System pavement condition data reported by HTA on the Highway Monitoring System, FHWA determined that (1) HTA did not meet the minimum level requirements for pavement condition on the Interstate System as required in 23 USC § 119(f)(1) and 23 CFR § 490.315 and (2) penalty under the provisions of the Interstate System Condition (23 USC § 119 (f)(1) must be invoked pursuant to 23 CFR § 490.317. As a result, HTA will have constraints on some portion of its allocated funds as per 23 CFR § 490.31(e).

¹⁷ 22% of San Juan metro area residents commute via carpool, walking, bicycling, or public transit, compared to 27% for the U.S.

¹⁸ Low air quality defined as AQI > 100; PR has 19 days per year to U.S. median of 4, as per the Department of Natural and Environmental Resources website

¹⁹ EPA estimates excess deaths per ton of emissions at 0.002 for NO_x and 0.1 for PM 2.5.

To address these issues, a comprehensive reform of the transportation sector on the island is required. HTA, being the manager of critical assets across different transport modes, should be a key driver of that reform. The cornerstone of the reform should be the rationalization of asset ownership, with the creation of mode-specific transport entities. To achieve that, HTA would need to transfer all transit assets to PRITA, establish an internal separation (“ringfence”) between its toll and non-toll operations and pursue a P3 for further structural independence of toll assets.

This reorganization should enable HTA to optimize decisions on toll pricing policy, enhancing its financial position, and enabling investments that support economic growth priorities. Furthermore, it should enable HTA to deploy funds more effectively, thus reducing the proportion of pavement in poor condition and making the roads of Puerto Rico safer.

The rationalization of asset ownership should be accompanied by a series of other structural measures and should be rolled out as a holistic reform package. The 2022 HTA Fiscal Plan establishes how the Authority should support the implementation of this reform package, in line with the Puerto Rico Oversight, Management and Economic Stability Act (“PROMESA”) section 205(a) letter sent to the government of Puerto Rico by the Financial Oversight and Management Board for Puerto Rico (“FOMB”) on January 29th, 2021:

A: Reorganize Puerto Rico’s transportation assets into transportation mode-specific entities.

The current state, where several different agencies have overlapping control and responsibilities of toll-roads, non-toll roads and transit assets, leads to inefficiencies, lack of coordination and poor outcomes for citizens. To solve this, the TSR calls for the segmentation of transport assets across three distinct classes: non-toll roads, toll roads and an integrated transit system. The following implementation approach achieves the segmentation through the following:

- **Integrating all transit assets under PRITA:** HTA should transfer all its transit assets to PRITA to empower PRITA to fulfill its original mission as a unified transit authority (i.e., encompassing all buses, ferries, TU). In parallel, the Government should also ensure PRITA achieves Federal Transit Administration (“FTA”) grantee status to finance these new responsibilities.
- **Maintaining toll roads and non-toll roads under HTA with ring-fenced structure between these asset classes:** HTA’s responsibility across both toll- and non-toll roads should expand to include construction and maintenance mandate, with internal separation (legal, financial, and operational) achieved through a toll-road-only management office. This approach (HTA maintaining all road assets, but internally separating toll assets via a toll roads management office) would allow HTA to leverage its existing capabilities and federal grantee status, while realizing the fiscal benefits of an asset separation.
- **Preparing and advancing a future toll-road concession for further structural independence as P3A continues to evaluate the viability of a toll-road P3:** The separation of toll-road assets into a newly created Toll Roads Management Office should streamline potential P3 processes (described below in section F) because it would demonstrate to potential investors and operators that HTA is committed to a fiscally sustainable toll-road operation. After the P3 is concluded, HTA should primarily

manage non-toll roads and serve as a contract-manager for toll-road assets that are ultimately transferred to a private operator

Rationale for proposed structure

The 2021 HTA Fiscal Plan presented an alternative asset separation, in which the future state would consist of three separated entities: toll assets under HTA, non-toll roads under DTOP and transit under PRITA. Based on a series of collaborative discussions with HTA, PRITA, and the Fiscal Agency, and Financial Advisory Authority (“AAFAF”), the 2022 HTA Fiscal Plan instead requires the establishment of an internal separation between toll and non-toll operations of HTA. This approach will still realize the benefits of asset separation while minimizing the operational and financial risks entailed by the transfer of non-toll roads to DTOP. This approach was adopted given:

- HTA has optimized payment procedures for contractors and has set up an organizational structure that enables contract administration at scale
- HTA has demonstrated it can deliver large-scale capital investments
- HTA has developed more robust asset management procedures over the last 30 years
- HTA is the sole FHWA grantee in Puerto Rico and as such complies with all 23 CFR requirements across the following areas:
 - Payment procedures- Chapter 1, subchapter 8
 - Planning/Environmental- Section 135, Chapter I, Subchapter E
 - Design-Highway Standard/Design Criteria-Section 109, Chapter I, Subchapter G
 - Construction and Contracting Procedures- Chapter I, Subchapter G
 - Transportation Infrastructure Management- Chapter I, Sub-chapter F
 - Maintenance- Properly Maintenance all Roads- Section 116
 - Highway Safety- Section 402, Chapter I, Subchapter II
 - Right of Way and Environment- Chapter I, Subchapter H

Implementation of Toll and Non-Toll segregation

Asset classes should be segregated with the creation of a Toll Roads Management Office within HTA and the transfer of the transit assets to PRITA (see Exhibit 1).

Exhibit 1: Proposed alignment of asset types to entities

HTA		PRITA
Non-toll roads authority	Toll roads authority	Transit authority
Primary roads	Toll roads	Bus
Secondary roads	Toll assets to be transferred to private concessionaire if P3 process deemed viable	TU
Tertiary roads		Ferries
		Private operators

To accomplish the effective segregation of the toll roads, HTA should create a new Toll Roads Management Office. The Toll Roads Management Office will be separated from other HTA departments in the following ways:

- **Segregation of Profit and Loss (“P&L”) and Accounting:** The Office should have its own chart of accounts and financial statements. Furthermore, it will maintain separate bank accounts and it will use its own revenues to cover only expenses that are directly associated with toll roads. Use of toll revenues to subsidize operations of the remaining highway network will be explicitly prohibited.
- **Separation of labor force:** The Office should have a labor force that will be exclusively dedicated to toll road operations and capital improvements. It will also have its own back-office functions (e.g., HR, IT, Finance). Overall, the size of that labor force must be proportionate to the share of costs incurred by the Office within HTA.
- **Contract segregation:** The Office should have the independent authority to negotiate and sign contracts. Furthermore, it will be responsible for monitoring the implementation of these contracts and resolving any outstanding disputes with contractors.
- **Separation of governance:** The Office should have its own Executive Board and will be able to define its own capital allocation priorities if they remain in line with applicable federal regulations.

At the same time, HTA should prepare to take up additional maintenance responsibilities for non-toll roads from DTOP. Preparation should involve the following steps:

- **Employee mobility:** HTA should work with DTOP to identify which DTOP employees will be transferred to HTA to support the execution of maintenance works on non-toll roads
- **Financial resourcing:** HTA should leverage DTOP’s help to estimate what additional resources would be required to carry out non-toll road maintenance. Then, any funding implications can be determined (e.g., size of the general Commonwealth transfer)

Exhibit 2: Implementation plan for asset transfers, subject to adjustment

Measure	Action item	Responsible party	Deadline
Track impact of reforms	Adopt transportation sector reform KPIs per the Commonwealth's selected scorecard ²⁰	AAFAF	August 31, 2022
Allocate transportation assets into mode-specific entities	Develop a program foundation to align on priorities, success metrics, measures, and future state organizational structure to demonstrate progress	PRITA, HTA, DTOP, AAFAF	October 1, 2021 (Delayed)
	Organize assets, roles, and responsibilities within existing entities into asset-class groupings	PRITA, HTA, DTOP, AAFAF	October 1, 2021 (Delayed)
	Identify legal and other obstacles to asset reorganization and present to FOMB	PRITA, HTA, DTOP, AAFAF	October 1, 2021 (Delayed)
	Segregate costs/revenues associated to tolled, non-tolled roads and transit assets (e.g., labor, opex) and assign by asset class	PRITA, HTA, DTOP, AAFAF	October 1, 2021 (Delayed)
	Amend/Update entity organizational structures to accommodate restructured roles and responsibilities	PRITA, HTA, DTOP, AAFAF	November 15, 2021 (Delayed)
	Draft proposed legislation (if needed) for toll-specific ringfence within HTA	HTA, AAFAF	June 30, 2022
	Update/amend internal management and financial systems to comply with legal separation of toll-assets	HTA, AAFAF	June 30, 2022
	Transfer personnel and resources (as applicable) to the relevant entities	PRITA, HTA, DTOP, AAFAF	June 30, 2022

²⁰ Included based on the inclusion of a scorecard as suggested by the Commonwealth in their April 29, 2021 response to the original 205(a) letter. Timeline for HTA's adoption will be subject to Commonwealth implementation of this measure.

Measure	Action item	Responsible party	Deadline
	Finalize transfer of roles and responsibilities for non-tolled roads from HTA to DTOP or relevant authority.	PRITA, HTA, DTOP, AAFAF	June 30, 2023
Re-allocate transit assets to PRITA	Perform initial assessment of legal and Federal Transit Administration (FTA) and Transportation Asset Management Plan (TAMP) considerations	PRITA, HTA, AAFAF	Completed
	Specify, procure, and implement required system to operate transit assets (e.g., IT infrastructure)	PRITA	April 29, 2022
	Achieve minimum financial, legal, and technical capacity to effectively manage FTA funds	PRITA, AAFAF	Completed

B: Create an overarching transportation policy board to guide multi-modal transportation strategy across the Island.

In accordance with the future vision for coordinated transportation assets across Puerto Rico, a transportation policy board should be established to set coordinated priorities for each agency. The Transportation Policy Board (“TPB”) should control a common transportation fund and suggest projects for funding across all transportation modes based on their potential to advance the island-wide transportation strategy. These projects should be proposed by a variety of transportation stakeholders, including metropolitan planning organizations, local governments, and local transit agencies. The TPB should facilitate coordination between the agencies to ensure ease of multi-modal transportation for its users.

The TPB should be empowered to, at a minimum:

1. Set long-term, cross-modal, strategic plans and investment priorities applicable to all transportation investments on the Island;
2. Regularly review and report on execution compared against strategic plans, providing transparency and guidance on any corrective steps required;
3. Coordinate the federal grants strategy for all transportation entities to harmonize the process and maximize opportunity and availability of federal funds;
4. Develop and oversee the use of objective frameworks for project selection and project prioritization processes; and
5. Provide oversight and compliance checks to both the pre-construction and capital delivery activities.

The proposed TPB would provide oversight and guidance for the transportation entities within the Government but would not seek to burden them with new regulations, leaving implementation of long-term strategic plans to each relevant entity.

Although the responsibility of creating an Island-wide transportation Board would largely fall on the Commonwealth, HTA should leverage its experience and provide input regarding the Board's structure. Once established, HTA should formalize its interaction model with the Board through a MOU and leverage the Board's perspective to guide project planning, to ensure optimal multi-modal outcomes in Puerto Rico.

Exhibit 3: Implementation Plan for Transportation Policy Board and multimodal coordination for transportation network

Measure	Action item	Responsible party	Deadline
Establish Transportation Policy Board or analogous entity	Establish an independent advisory board responsible for setting long term holistic strategic plans and oversight of investment prioritization processes to advance transportation from an Island-wide perspective	AAFAF	November 1, 2021 (Delayed)
	Establish processes and guidelines for reviewing and reporting on the execution of strategic plans and providing transparency and guidance on corrective action	TPB	December 1, 2021 (Delayed)
	Establish processes and guidelines for coordinating the federal grants strategy for all transportation entities to harmonize the process and maximize availability of federal funds	TPB	December 1, 2021 (Delayed)
	Assess and develop mechanisms to lower traffic congestion and increase accessibility to transit	TPB	December 1, 2021 (Delayed)
	Establish an MOU agreement outlining the approach for and terms under which all transportation entities will work with one another	TPB, HTA, ATM, PRITA	December 1, 2021 (Delayed)

C: Develop and use objective frameworks for project selection.

In Puerto Rico, poor performance management results in a backlog of maintenance projects, high costs relative to service levels and a disconnected system that cannot effectively execute

a multi-modal strategy. HTA has historically struggled to deploy its available capital funding to maintain SOGR. Unmet targets are not due to lack of available funding. They are rather a result of HTA's struggle to successfully execute its backlog of projects.

In Chapter 13, the Fiscal Plan lays out a clear methodology for HTA to better manage its capital expenditure and ensure that it can deliver its ambitious capital program. Under its Optimizing Construction Cost fiscal measure, HTA is required to reduce costs and ensure project delivery. As part of this Reform, HTA must consistently apply these frameworks for all investment decisions and tracking its use of the selection criteria (e.g., how chosen projects have scored relative to other selected and un-selected projects) with one another.

Exhibit 4: Implementation plan for project performance management²¹

Measure	Action item	Responsible party	Deadline
Optimize capital expenses	Propose set of projects that would benefit most from creation of standard project definition workflows (e.g., commonalities, frequencies)	HTA	Ongoing
	Propose set of projects that would benefit most from creation of standard design packages (e.g., number of stakeholders, frequencies)	HTA	Ongoing
	Identify and propose opportunities to leverage alternative procurement methods	HTA	Ongoing
	Identify capability gaps within in-house construction team	HTA	Ongoing
	Pilot improvements to address opportunities areas identified in capital delivery diagnostic	HTA	Ongoing
	Use standard project definition workflows for initial set of projects	HTA	Ongoing
	Use standard design packages for initial set of projects	HTA	Ongoing
	Create and propose alternative procurement RFP(s) for eligible projects	HTA	Ongoing
	Create plan to address capabilities gaps (e.g., outsourcing, training) within the construction team	HTA	March 31, 2022

²¹ Full implementation plan also included in Chapter 12.1

	Complete FHWA-approved process improvements (e.g., pay-item sampling) to expedite invoice processing in project close-out	HTA	June 30, 2022
	Complete implementation of electronic records management system to facilitate efficient project close-outs	HTA	June 30, 2022

D: Improve performance management through integration in public systems, performance-based contracts, and better supervision.

At present, públicos and transportation network companies operate broadly across Puerto Rico to satisfy excess demand for transportation beyond that provided by the public sector. There is limited coordination, however, between these private operators and the public networks. Similarly, private contractors execute much of the Island's transportation construction without providing visibility into individual project performance. If managed well, the private sector should be a key partner in both operating transit systems and delivering capital projects efficiently and cost-effectively.

HTA must implement existing fiscal measures, namely the transit enhancements listed in Section 11.5, to better integrate transit assets on the island. The Board should take steps to ensure that both schedules and transit card options are uniform between modes of transit to improve system accessibility for all users. Similarly, the CIP optimization fiscal measure in Chapter 13 lays out a path for HTA to deliver its entire capital program on time and under budget.

Exhibit 5: Implementation plan for project performance management²²

Measure	Action item	Responsible party	Deadline
Leverage private-sector services for improved efficiency	Design a series of initiatives that can be implemented in collaboration with private transport networks (e.g., públicos)	HTA, PRITA, private networks	December 31, 2021 (Delayed)
	Develop a strategy for communicating with private network operators	PRITA	December 31, 2022
Transit Service Integration and Coordination	Adopt a single farecard for all public transit networks	HTA, ATM, PRITA	June 30, 2022 (Delayed)
	Harmonize fares and schedules across TU, buses, and ferries	HTA, ATM, PRITA	December 31, 2022 (Delayed)
	Pool data resources to conduct common research on future initiatives	HTA, ATM, PRITA	December 31, 2022 (Delayed)

²² Full implementation plan also included in Chapter 13

E: Enhance effectiveness of governance by reforming entity boards of directors, where relevant, to include fewer political appointees and more subject-matter experts.

An effective, independent board of directors for each mode-specific transportation organization would ensure that the entity's funds are optimally used to improve system performance, asset condition and user experience of each transportation mode. Prompt implementation of these changes will increase subject-matter expertise in the governance of HTA and further insulate the board from political pressures.

In section 9.1, HTA commits to recruiting a new Board of Directors as part of the fiscal measure. The current Board of Directors is majority government stakeholders; however, to become a successful, independent governing authority, HTA should change the Board structure to include a majority of independent expert perspectives. Accomplishing this fiscal measure will allow HTA to ensure that technical experience governs project selection and execution, aligned with the broader aims of the island-wide transportation sector reform.

Exhibit 6: Required Implementation Actions for Recruiting a new Board of Directors for HTA

Measure	Action item	Responsible party	Deadline
Create new Board of Directors for HTA	Engage law firm to assist in legislative process	HTA	September 30, 2021 (Delayed)
	Share draft of Law enabling the appointment of the Board with FOMB	Commonwealth	December 31, 2021 (Delayed)
	Approve Law enabling the appointment of the Board	Commonwealth	February 28, 2022
	Hire executive recruitment firm to identify potential independent Board members	HTA	May 31, 2022
	Approve appointment of independent Board members	Commonwealth	September 30, 2022

F: Maximize the Commonwealth's funding envelope through a more aggressive federal grants strategy and by improving bankability to attract private capital.

Puerto Rico would benefit from a holistic strategy to maximize funding flowing into its transportation network. By establishing a federal funding strategy, attracting more private investment, and increasing ancillary revenue, HTA, alongside other agencies, can improve the transportation sector's financial health and invest more in service delivery and capital projects for public transportation users. To obtain Puerto Rico's proportional share of federal funds, transportation entities should have a proactive strategy to identify, apply for and pursue additional discretionary federal funding. Similarly, P3s and ancillary revenue are effective strategies to attract private investment into the transportation network.

The importance of these efforts has been magnified with the passage of the BIL, which increases the available pool of discretionary grant funding for which HTA can compete. If HTA were to get its “fair share” (i.e., 1%, comparable to Puerto Rico’s share of the U.S. population), discretionary grant programs would add an additional \$90 million per year for capital investments.

The “ringfence” approach (described in Recommendation A above) will support greater pursuit of P3 funding. The internal separation of toll assets will attract potential private operators and ease the transition of ownership and/or operations.

Section 11.7 establishes a strategy for HTA to maximize its access to funding under its “discretionary funds” fiscal measure and Section 11.3 identifies opportunities for HTA to enhance its receipt of ancillary revenues. Furthermore, Chapter 14 proposes approaches for more P3 opportunities to improve private funding. Each of these measures are critical as part of this reform in attracting non-Commonwealth revenue. These measures can be complemented by HTA working with AAFAF and P3A to ensure that there is a Commonwealth-wide P3 strategy that maximizes private funding as well. As part of this, HTA must review its portfolio of projects, determine which of those may be eligible for P3 and improve the bankability of projects as necessary to maximize the availability of non-Commonwealth funding.

Exhibit 7: Required implementation actions for maximizing HTA’s funding

Measure	Action item	Responsible party	Deadline
Improve ancillary revenue	Hire ancillary revenue management team	HTA	December 31, 2021 (Delayed)
	Begin a campaign to acquire ancillary revenue increases (e.g., advertising)	HTA	February 28, 2022
	Begin coordination with third parties for ancillary revenue increases that require contracting (e.g., rentals)	HTA	March 31, 2022
	Begin ancillary revenue increases that require long-term planning and complex legal agreements (e.g., joint real estate development initiatives)	HTA	June 30, 2022
	Develop a comprehensive ancillary revenue strategy, which will include a full asset inventory and an analysis of administrative constraints and submit to FOMB for review	HTA	June 30, 2022

Measure	Action item	Responsible party	Deadline
Collect discretionary grants	Hire discretionary grant management team	HTA	December 31, 2021 (Delayed)
	Begin preparing discretionary grant applications and collecting all necessary supporting documents	HTA	March 31, 2022
Pursue P3 opportunities	Evaluate and prioritize potential areas for additional P3s led by 3 rd party.	HTA/P3A	August 31, 2021 (Delayed)
	Finalize due diligence process and desirability and convenience study.	HTA/P3A	September 30, 2021 (Delayed)
	Propose governance structure for oversight of P3 transaction process	HTA/P3A	April 30, 2022
	Evaluate different potential deal structures using variety of scenarios within fiscal plan constraints. Finalize and share with FOMB detailed opportunity by opportunity execution plan for prioritized P3 opportunities.	HTA/P3A	April 30, 2022
	Launch RFP(s) for prioritized P3	P3A	Based on execution plan and aligned with legal constraints
	Begin first new P3 agreement	HTA/P3A	Based on execution plan and aligned with legal constraints

Tracking Progress Towards Outcomes

By directly implementing, or assisting the Commonwealth in implementing, these recommendations, HTA will have more capacity to improve the transportation sector and deliver better outcomes for the citizens of Puerto Rico. To ensure that HTA and the Commonwealth are making concrete progress, HTA must collect and track relevant metrics on the outcomes of the system. An example of an outcome-based scorecard is provided below.

Exhibit 8: An example outcome-based scorecard

Objectives	Impact metrics	Current PR performance	US median performance
Performance & Condition	Road condition: % of interstate pavement in poor condition	12	2
	Transit revenue generation: Non-fare directly-generated funding as % of total	12.3	23.7
	Train system condition: # of failures per 1M revenue mile	373	55
Experience & Efficiency	Driving experience: Hours lost to congestion per person per year	58	54
Sustainability & Resilience	Sustainable commuting options: % sustainable mode share	22%	27%
	Road safety: Road fatalities, # per 100M VMT	2.0	1.1
	Air quality: Days with AQI > 100	19	4

The recommendations are building blocks towards a vision for Puerto Rico's transportation sector that enhances safety, condition, performance, and sustainability. Implementation of the outlined recommendations and execution steps therein will result in a well-performing public transportation system, which can ultimately catalyze economic growth for the people of Puerto Rico. Improving the transportation system will be a gradual process that builds momentum over time as outcomes are incrementally realized through implementation of these recommendations. Nonetheless, by ensuring that operating assets are used efficiently, and projects are delivered on time and on budget, Puerto Rico can recycle savings back into the system. These improvements will ultimately have an impact on every user of the transportation network, supporting shorter, more predictable commutes; improved road safety; and cleaner air. With key investments and dedicated management, HTA and the other transportation authorities can build a safer, more sustainable, and more livable environment for its residents.

PART III – DESCRIPTION OF HTA

CHAPTER 2: HTA MISSION, HISTORY & VISION

2.1 HTA's Mission and Vision

HTA is a public corporation and government instrumentality of the Commonwealth of Puerto Rico, under the oversight of Puerto Rico's Department of Transportation and Public Works (DTOP, by its Spanish acronym). HTA is responsible for the operation of toll roads and the construction of roads, highways, and related transportation facilities in Puerto Rico. Furthermore, HTA is responsible for San Juan's metro system, TU, as well as its network of feeder buses.

HTA aims to facilitate movement of vehicles and individuals; ensure access to highways in good condition; alleviate the dangers and inconveniences of traffic congestion; improve the safety of the Commonwealth's highways; and address Puerto Rico's demand for improved transportation infrastructure. HTA strives to develop an integrated transportation system that promotes Puerto Rico's economic development in harmony with the environment.

HTA's mission is to support the economic development of Puerto Rico through an integrated transportation network, prioritizing safety, environmental responsibility and excellent service delivery focusing on:

1. **Safety:** Promote the safe and easy movement of vehicles and individuals.
2. **State of Good Repair:** Reach and maintain SOGR to ensure the people of Puerto Rico have access to quality roads and modes of transportation.
3. **Economic Development:** Contribute to the development of Puerto Rico.
4. **Resilience:** Build a strong, resilient road network by strengthening assets that are prone to natural disasters.

HTA must accomplish its mission through the following actions:

1. Plan and execute construction projects on Puerto Rico's highways;
2. Identify and implement strategies for addressing demand for improved transit and transportation facilities;
3. Contribute to the development and implementation of Puerto Rico's transportation plan and sector reforms;
4. Determine, impose, adjust and collect tolls;
5. Promote the development of the transit system and surrounding areas.²³

²³ Article 2 and 4, Act No. 74 of June 23, 1965, as amended, known as the "Puerto Rico Highways and Transportation Authority Enabling Act"

2.2 History and Responsibilities of HTA

HTA was created by Act 74 of June 1965 to build Puerto Rico's highway network (the local equivalent of both US routes and Interstate), part of the system developed in the continental United States during the 1950s and 1960s. It has since evolved to adopt responsibilities beyond serving as the agency responsible for the construction of the state system and management of the toll roads. In 1990, through Act 4, HTA was designated to implement P3 contracts for the construction, operations and maintenance of highway, bridges, avenues, and other traffic installations. In this capacity, HTA completed the Teodoro Moscoso Bridge in 1994, the first P3 under U.S. jurisdiction. In 1991, under Act 1, the old Highway Authority became HTA, an integrated transportation authority that is now the principal promoter and developer of transportation on the Island. Though HTA originally was created to manage the toll network, HTA has grown to manage the highway network, TU transit system and feeder bus system. Today, HTA both constructs new roads and maintains its existing network of toll and non-toll roads and supports other public entities (e.g., municipalities) with the management of federal construction grants and the delivery of capital projects. In the future, these responsibilities will shift as the transportation reforms, described in Chapter 1, are implemented.

2.3 HTA's Transportation Network

Puerto Rico's road system consists of 11,653 non-municipal lane-miles of roads, of which 10,556 lane-miles are owned by DTOP and 1,097 lane-miles are owned by HTA (see Exhibit 9).²⁴ HTA-owned roads include 9.1% of state lane miles and transport 23.0% of the state roads' demand. Administrative responsibilities for construction and maintenance of roads are not allocated based on ownership. HTA is responsible for the operations and maintenance of 6.5% of highway lane-mileage, while being responsible for construction on 97.0% of highway lane-mileage, managing construction on behalf of DTOP for many roads.²⁵

Exhibit 9: Toll and Non-Toll Road Mileage in Puerto Rico

Toll roads vs. Non toll roads in Miles						
	Sum of length	Sum of % length	Sum of Lane Miles	Sum of % Lane Miles	Sum of VMT	Sum of % VMT
Non toll road	4,654.3	95.2%	10,595.6	90.9%	36,088,503.4	77.0%
Toll road	236.4	4.8%	1,057.7	9.1%	10,772,645.6	23.0%
Total	4,890.7	100.0%	11,653.3	100.0%	46,861,149.0	100.0%

²⁴ Based on 2020 HPMS. The HPMS is a national level highway information system that includes data on the extent, condition, performance, use and operating characteristics of the nation's highways. The HPMS contains administrative and extent of system information on all public roads, while information on other characteristics is represented in HPMS as a mix of universe and sample data for arterial and collector functional systems. Limited information on travel and paved miles is included in summary form for the lowest functional systems. HTA collects data on 4,000 road segments on a continuous basis to comply with Federal regulations.

²⁵ Construction and major reconstruction of the state system and operations and maintenance of the toll roads was assigned to HTA by Act 74 of June 1965.

Exhibit 10: Construction Responsibility by Agency

Construction responsibility in Miles						
	Sum of length	Sum of % length	Sum of Lane Miles	Sum of % Lane Miles	Sum of VMT	Sum of % VMT
Abertis	1.3	0.0%	9.5	0.1%	89,330.8	0.2%
Metropistas	73.2	1.5%	344.4	3.0%	4,700,537.3	10.0%
HTA	4,816.2	98.5%	11,299.5	97.0%	42,071,280.9	89.8%
Total	4,890.7	100.0%	11,653.3	100.0%	46,861,149.0	100.0%

Exhibit 11: Operations and Maintenance Responsibility by Agency

Operations and maintenance responsibility in Miles						
	Sum of length	Sum of % length	Sum of Lane Miles	Sum of % Lane Miles	Sum of VMT	Sum of % VMT
Abertis	1.3	0.0%	9.5	0.1%	89,330.8	0.2%
DTOP	4,649.4	95.1%	10,546.8	90.5%	35,128,085.3	75.0%
Metropistas	73.2	1.5%	344.4	3.0%	4,700,537.3	10.0%
HTA	166.8	3.4%	752.7	6.5%	6,943,195.5	14.8%
Total	4,890.7	100.0%	11,653.3	100.0%	46,861,149.0	100.0%

HTA manages tolling facilities on four major roads on the island (PR-20, PR-52, PR-53, and PR-66). As of February 2022, two additional toll roads (PR-5 and PR-22) and the Teodoro Moscoso bridge are managed and operated by Metropistas, a concessionaire. Part of the proposed transportation sector transformation includes supporting the P3A in studying potential P3s of the remaining toll roads.

Exhibit 12: Map of Puerto Rico's highway system



In addition to road management, HTA also operates transit assets including TU, San Juan's heavy rail system, and its associated feeder buses. Completed in 2004, TU is the Caribbean's first urban rapid transit system. It consists of a single line of 10.7 miles with sixteen stations from Bayamón to Sagrado Corazón in downtown San Juan.²⁶ Most of the system is elevated with a 1.1-mile tunnel section in the Rio Piedras district.

²⁶ US General Accounting Office, Review of the Tren Urbano Finance Plan, p. 1 (Tren Urbano was initially estimated to cost ~\$1.25B) / FHWA, Project Profile: Tren Urbano, Found online at: https://www.fhwa.dot.gov/ipd/project_profiles/pr_tren_urbano.aspx (Tren Urbano ended up costing ~\$2.25B).

HTA is one of three agencies that manage the operation of public transportation assets in the San Juan metropolitan area. PRITA operates the main bus network of San Juan and Maritime Transport Authority (ATM) operates the ferry between Old San Juan and Cataño.

The management of multiple transportation assets and lack of asset-class specific ownership and responsibility contribute to a lack of integration and coordinated planning by mode across the Island. HTA's mandate beyond the toll road management creates potential overlap with other transportation agencies, which contributes to lagging performance outcomes across the entire system. This overlap should be addressed through the broader transportation sector reform outlined in Chapter 1.

2.4 Governance and Organizational Structure

Current Organizational Structure

HTA is a government instrumentality overseen by DTOP and the HTA Executive Director reports to the Secretary of DTOP and HTA's Board of Directors. The Authority is led from the Office of the Executive Director and currently follows the organizational structure shown in Exhibit 13.

HTA has a Board of Directors, which guides HTA's overall strategy and aids in priority-setting. HTA's Board is composed of the DTOP Secretary, the President of the Puerto Rico Planning Board, the Executive Director of AAFAF and the Treasury Secretary. Three remaining positions, intended to be filled by industry professionals, are currently vacant. Board members currently serve terms of unlimited duration. Chapter 10 provides further details on how this Board should be optimized to enhance HTA's governance and build deeper industry expertise in the oversight of the Authority.

In January 2018, HTA had 1,283 employees. Since then, 373 employees enrolled in one of the three phases of the voluntary transition program ("VTP"), while HTA witnessed a net attrition of 74 employees. Currently, HTA has 836 employees distributed across 16 administrative areas (which are distinct from the fields in the organizational hierarchy).²⁷ Below is the breakdown of the Authority's employees by area:

²⁷ Employee data comes from HTA's payroll file as of December 2021. Classification of administrative areas does not fully match divisions in HTA org chart due to ongoing organizational changes that HTA has to undertake as part of its MOU with FHWA.

Exhibit 13: Current Organizational Structure of HTA

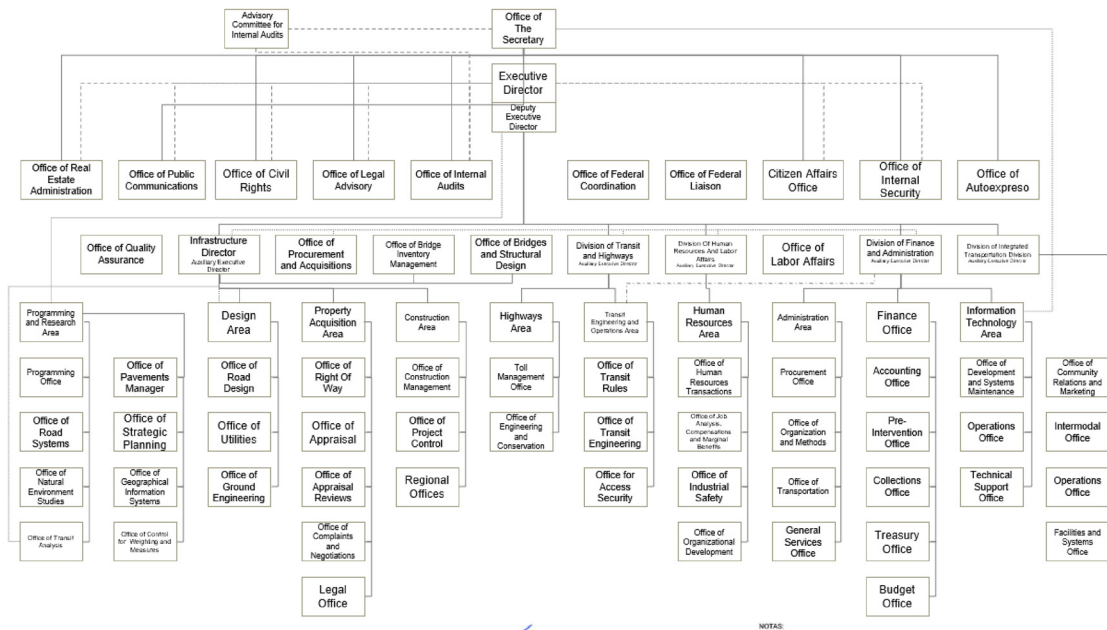


Exhibit 14: Current HTA personnel by division (as of December 2021)

Division	Number of employees	Division	Number of employees
Area of Tren Urbano	11	Area of Infrastructure Support	12
Area of Highway Administration	73	Area of Infrastructure Technology	8
Area of Planning & Special Studies	42	Area of Human Resources	24
Area of Traffic Engineering	24	Area of Administration	38
Area of Property Acquisitions	20	Area of Administration & Finances	33
Area of Design	23	Area of Executive Director	14
Area of Construction	374	Divisions outside HTA	93
Area of Engineer Services	47		


SOURCE: HTA December 2021 Fiscal Plan submission

2.5 Key Performance Indicators (KPIs)

Improving the safety, condition and performance of the transportation system are central to HTA's mission as a transportation authority. Delivery on the capital program, in particular

reaching and maintaining SOGR²⁸ for the road network, is a strategic priority. By most metrics, HTA lags its mainland peers and must make substantial improvements in performance across the board, rather than modest incremental improvements in selected areas. For example, fatalities remain two times the level of mainland peers, the share of the network in good condition is one fourth of the share of peers, and San Juan remains among the most congested metros in North America. Radical improvements are paramount in these performance metrics, including HTA's ability to deliver on strategic priorities in the capital program. The historic level of capital investment proposed in the 2022 HTA Fiscal Plan will support HTA in its continued improvement on these metrics.

Exhibit 15: Puerto Rico's performance against KPIs ²⁹

Metric	Progress required according to this Fiscal Plan 		
	Current PR performance (2020)	Minimum FHWA requirements ³	Target performance (US Median in 2020)
Road fatalities (per 100M of annual VMT)	1.89	1.85	1.37
% of Pavement in Good Condition (Interstate) ¹	13	2	84
% of Pavement in Poor Condition (Interstate) ²	14	5	2
% of Pavement in Good Condition (Non-Interstate) ¹	4	2	57
% of Pavement in Poor Condition (Non-Interstate) ²	8	20	10
% of Bridge Deck Area in Poor Condition	9	10	5

1 Good Condition: International Roughness Index (IRI) of less than 95 / 2 Poor Condition: IRI of more than 170 / 3 As featured in the FY19 Certified FP

Lagging performance not only impacts everyday citizens of Puerto Rico by adversely affecting the transportation network's ability to efficiently move goods and people, it also creates risks such as lack of federal funding compliance. HTA is expected to continue progress towards achieving target performance across these metrics. Failure to meet FHWA requirements results in financial penalties imposed by FHWA, which can then impact capital program investments. HTA has been in violation of FHWA requirements for interstate pavement condition over the last two years, but its continued investments will further its ability to bring the network to SOGR.

²⁸ The exact definition of the term is left to the discretion of State DOTs. However, FHWA has defined SOGR in the context of exercises. This definition is the following: 97% of Interstate pavement in Good or Fair Condition, 85% of Non-Interstate National Highway System (NHS) pavement in Good or Fair Condition and 75% of Non-Interstate Non-NHS pavement in Good or Fair Condition. Good Condition is, in turn, defined as having an International Roughness Index (IRI) score of less than 95 and Fair Condition is defined as having an IRI score of less than 120. FHWA exercise found online at: <https://www.fhwa.dot.gov/asset/guidance/hif19006.pdf>

²⁹ Reporting period for Current PR Performance as of June 30, 2020, from PRHTA B2A (December 2021)

To improve delivery of these metrics, the 2020 HTA Fiscal Plan required the Authority to identify more granular KPIs for each specific construction project, that was submitted to FOMB to approval by August 30, 2021. In compliance with the implementation actions for adopting and revising KPIs, HTA recommended a set of project level KPIs under multiple categories to provide more granularity in terms of the Capital Improvement Plan (CIP) performance. Upon review of the set of recommended project level KPIs, such were ultimately approved by the FOMB on October 18, 2021. Please refer to Chapter 6 for a detailed overview of the approved project level KPIs.

HTA must submit an annual report every May to the FOMB, describing its past progress and laying out its targets for the upcoming year across the metrics laid out above. Additional reporting requirements are further described in Appendix B of the 2022 HTA Fiscal Plan.

2.6 The Future of HTA & Puerto Rico's Transportation Sector

The transportation sector's continued underperformance across a range of outcomes underscores the importance of transformation of HTA and the rest of the transportation sector. Transformation of this scale is both possible and precedented.³⁰ HTA will improve and transform transportation outcomes for residents of Puerto Rico by meeting or exceeding fiscal measures and supporting the Commonwealth-wide transportation sector reforms.

The reforms outlined in Chapter 1 will allow HTA to focus its efforts on exclusively managing and operating its toll roads. Furthermore, through these reforms, HTA will have the opportunity to improve its processes through improved project management, increased discretionary

CHAPTER 3: RELATIONSHIP WITH COMMONWEALTH, FOMB, FHWA, FTA AND EFL

3.1 Relationship of HTA with the Commonwealth

Due to its role delivering transportation infrastructure projects, HTA has historically received significant fiscal support from the Commonwealth. Before 2015, HTA received appropriations of revenues from the cigarette tax, gasoline tax, diesel tax, petroleum tax, vehicle license fees collected by the Commonwealth. In 2015, the sitting Governor issued Executive Order 2015-046, pursuant to which the Commonwealth began retaining these revenues. As a result, the Commonwealth started making two appropriations: a) a capital expenditure appropriation and b) a general transfer. To ensure HTA had enough resources to fund necessary maintenance and capital expenditures to keep Puerto Rico's transportation system operational, the Commonwealth started making two new, main appropriations: a) a capital expenditure

³⁰ Across the US and Latin America, there are multiple examples of successful transportation reforms that have yielded substantial improvement of transportation outcomes. Bogotá, for example, successfully integrated an industry of private bus operators into a new large-scale Bus Rapid Transit ("BRT") network, TransMilenio, in the early 2000s. TransMilenio led to a 32% reduction in travel times, 92% decrease in road deaths and 40% reduction in some air pollutants.

In 2002, Florida transformed its transportation department by combining all toll roads under a single entity and seeking private sector funding and support for many of its operational functions. Since 2013, the Florida Department of Transportation has seen a 5.8% compounded annual growth rate in toll revenues, with 2019 toll revenues of \$932 million, up from \$663 million in 2013.

In 1995, Virginia created its public-private partnership ("PPP") office, which has catalyzed at least \$10.2 billion of transportation investment since its inception—the highest in the US.

appropriation, designed to help HTA advance its infrastructure priorities; and b) a general transfer, intended to be used by HTA solely to fund the operational expenses and capital needs of HTA's non-toll assets, in line with Section 5.2.6 of the Commonwealth Certified Fiscal Plan. As a result, over FY22-FY51, the 2022 HTA Fiscal Plan includes an average annual general unrestricted appropriation of \$109 million and average capital appropriation of \$67 million per year. The HTA operating transfer is intended to be used by HTA solely to fund costs associated to non-toll assets and is not available to be used for any other purposes. The existence of these appropriations is subject to revision, in line with the broader priorities of the Commonwealth. The Commonwealth is unable to fund larger or additional appropriations to HTA (or re-establish appropriations of the retained tax revenues discussed above) given its own fiscal challenges, as set forth in the Commonwealth's 2022 Certified Fiscal Plan.

3.2 Relationship of HTA with the FOMB

In 2016, the US Congress enacted the Puerto Rico Oversight, Management and Economic Stability Act ("PROMESA") to address a fiscal emergency in Puerto Rico. In enacting PROMESA, Congress found, among other things:

- A combination of severe economic decline and, at times, accumulated operating deficits, lack of financial transparency, management inefficiencies and excessive borrowing has created a fiscal emergency in Puerto Rico.
- As a result of its fiscal emergency, the Government of Puerto Rico has been unable to provide its citizens with effective services.
- The current fiscal emergency has also affected the long-term economic stability of Puerto Rico by contributing to the accelerated outmigration of residents and businesses.
- A comprehensive approach to fiscal, management and structural problems and adjustments that exempts no part of the Government of Puerto Rico is necessary, involving independent oversight and a federal statutory authority of the Government of Puerto Rico.

Accordingly, PROMESA provided for the creation of the FOMB, which provides oversight to the Authority so that it will achieve fiscal responsibility and access to the capital markets. In May 2017, the FOMB filed a petition for relief under Title III of PROMESA in accordance with the requirements of section 302 of PROMESA for the purpose of adjusting its debts. The FOMB has determined that a successful restructuring of HTA's debts under a plan of adjustment and the viability of HTA going forward in accordance with the mandates of PROMESA will require HTA to undertake a series of initiatives (e.g., revenue enhancements, cost savings) that promote its fiscal responsibility, enhance quality of life, and promote economic growth through a reliable and accessible transportation system with professional and transparent governance. These initiatives are outlined as fiscal measures in HTA's Fiscal Plan, which is updated at the end of every Fiscal Year. These updates, including the updates reflected in this Fiscal Plan, reflect new macroeconomic, policy and technological developments and are certified by the FOMB after appropriate revisions are incorporated. The FOMB is responsible for monitoring progress of this Fiscal Plan by reviewing a series of reports that are submitted by HTA. The FOMB is also responsible for helping improve HTA's contract management practices through its contract review policy established in accordance with section 204(b)(2) of PROMESA. The FOMB reviews contracts with third parties, ensuring they promote market competition and are consistent with the Certified Fiscal Plan and Certified Budget.

3.3 Overview of Relationship with Federal Highways Administration

To fulfill its responsibilities as a transportation authority, HTA works closely with the FHWA. HTA receives an annual allocation of approximately ~\$139 million after penalties from FHWA to execute capital projects. This allocation is included in federal legislation (FAST Act) and is projected to further increase by ~\$19m per year over FY22-26 with the enactment of the BIL. Further to the above, new funding is occasionally made available to HTA, including Emergency Relief (ER) funds. The Federal-Aid Highway Programs (FAHP) is currently the primary source of funding for construction of Puerto Rico highways, roads, bridges, and streets. The FAHP is funded from the transportation user-related revenues deposited in the Federal Highway Trust Fund, primarily federal excise taxes on motor fuels along with excise taxes on tires, trucks and trailers and truck-use taxes.

The Federal-Aid Highway Program (FAHP) is a reimbursement program administered by HTA and assisted by FHWA. FHWA's relation with HTA is described in a "Stewardship and Oversight Agreement."³¹ FHWA supports HTA to carry out highway construction when HTA's resources are limited due to unforeseen circumstances. For example, in the aftermath of Hurricane Maria, the Eastern Federal Lands Highway Division ("EFLHD") of FHWA executed two memoranda of agreement (MOAs) with HTA and FHWA Puerto Rico/US Virgin Islands ("USVI") Division to support HTA with the delivery of the ER program and accelerate the recovery of the Island. An overview of the MOAs is included in Appendix B. The first MOA, titled "Construction Engineering and Inspection Services for Highway and Bridge Projects," is for EFLHD to assist HTA in monitoring construction contractor performance and ensuring proper construction standards are adhered on HTA delivered construction ER program emergency contracts. EFLHD employees and consultants made recommendations to HTA regarding the suitability of completed work and contractor compliance with contracts. The second MOA, titled "Engineering and Construction Services for Bridge, Traffic Signage and Safety Improvements and Landslide Projects",³² is for EFLHD to provide preliminary engineering, procurement, and construction engineering services of ER program permanent work for improvements related to damages caused by Hurricane Maria. The projects have been delayed due to the difficulties HTA and their consultants have experienced in completing and delivering the final designs, environmental permitting, utility coordination and ROW acquisition to EFLHD. These issues combined with the magnitude of the size of the program have prevented the projects from moving forward at a steady pace.

In terms of funding, of the \$504.4 million in Hurricane relief funding allocated by FHWA, \$241.8 million has been transferred to EFLHD. Of the remaining \$262.6 million in hurricane relief funding made available to the Authority, ~60% (\$155.6 million) has been disbursed.

³¹ <https://www.fhwa.dot.gov/Federalaid/stewardship/?CFID=164387233&CFTOKEN=7a4229de2767206b-9AFB817D-9DEB-10B1-9DDF1DD10B7433D1>

³² <https://www.fhwa.dot.gov/prdiv/moa.cfm>

Exhibit 16: FHWA-allocated ER funding (as of June 30, 2021)

FHWA Funds as of December 16, 2021

Emergency addressed	Status, \$M			
	Allocated Funds by FHWA	Transferred to EFL	Obligated to date	Spent to date
Hurricanes Irma and Maria	504.4	241.8	262.6	155.6
2018 Tidal Waves	1.8	-	-	-
2019 Heavy Rain Event	6.4	-	5.4	3.2
2019 Karen Tropical Storm	2.9	-	0.6	0.2
January 2020 Earthquakes	14.1	-	14.1	8.8
Total	529.6	241.8	282.5	167.8

FHWA and the US Department of Transportation (USDOT) also administer stimulus and discretionary grant programs, for which HTA is eligible.

The recently-enacted BIL provides an historic amount of capital funding for Puerto Rico—both through increases to formula funding and competitive, discretionary grant programs. Thus, HTA's focus on securing its fair share of competitive funding will take on increased importance. BIL also created a one-time (for the period of FY22-26) formula funded program for critical bridge repairs and investment, under which HTA is eligible for a minimum of \$225 million (\$45 million per year over five years). Finally, BIL expanded the size of the discretionary grant programs which are available to supplement HTA's formula funding. If HTA were to get its "fair share" of such funding (i.e., 1%, comparable to Puerto Rico's share of the U.S. population), discretionary grant programs would add an additional \$90 million per year for capital investments.³³

3.4 Memorandum of Understanding with FHWA and KPIs

Memorandum of Understanding with FHWA

To maintain its eligibility for designated Federal highway construction funding, the Governor of Puerto Rico signed an MOU with FHWA on February 29, 2016. The purpose of the MOU is to facilitate improvements to HTA's federal-aid billing procedure and enable HTA's ability to be suitably equipped and organized to meet federal requirements and to expedite project delivery. The MOU was required to maintain eligibility for designated federal highway construction funding in the face of persistent performance challenges, including a growing backlog of inactive obligations and unexpended balances.³⁴ This MOU specifies that HTA must undertake a series of improvements in the following areas:

³³ Figure reflects five-year (FY22-26) high-level estimate for the following programs: Megaprojects; RAISE; Safe Streets; Culverts; SMART; Bridge Program (competitive); INFRA; Reconnecting Communities; Low/no Emission Bus; Capital Investment Grants.

³⁴ As of September 2021, FHWA reported that HTA has 30.4% of inactive obligations while the national average is 1.5% and that HTA has ~\$703M in unexpended balances, of which \$129M are ER funds.

- **Federal Billing Procedures:** The MOU requires HTA to pay contractors with Electronic Funds Transfers (EFT) no more than 40 days after HTA receives their invoices. HTA must also track the status of payments in an electronic method that is acceptable and accessible to FHWA. In May 2016, HTA established a procedure to pay contractors with EFTs. Currently, HTA is paying Contractors within 40 days. For the long-term functionality of the billing procedures, HTA is planning to process invoices and certifications for payments through Project Management Information System (PMIS) and Integrated Contract Management Module (ICMM). During December 2021, FHWA approved the Record of Authorization for HTA to proceed with the PMIS and ICMM integration. HTA is currently in the implementation of the system's integration modifications and it's running a pilot program in PMIS to upload legacy invoices and certifications.
- **Toll Credits:** The MOU requires FHWA to identify the amount of toll credits available for HTA use and ensure its toll credit balance is in compliance with current FHWA guidance. The MOU also requires HTA to modify its processes for approving, tracking and reconciling toll credit usage. In December 2021 the SOP 09-11-06 "Procedures for the Use of Toll Credits" was approved. HTA is planning to incorporate the Toll Credits balance and usage through PMIS and has started a pilot program to include projects into the system.
- **Organizational Capacity:** The MOU requires HTA to develop a Request for Proposal ("RFP") to procure a management consultant. The consultant would help the Authority become a more efficient organization by improving its systems, procedures, structure, and bylaws. The MOU requires: (1) the selected consultant to prepare a recommendation report; and (2) HTA to submit the report to FHWA along with an implementation schedule for the accepted consultant's recommendation. In March 2019, HTA submitted the implementation schedule to FHWA. In August 2020, HTA received a draft of the Classification and Compensation Plan developed by the consultant but in October 2021 the plan was still in a draft version and was not finished yet. As soon as the plan is completed and approved the implementation date will be reviewed. HTA has already delineated a plan to prioritize the review and updates to the SOPs related to the delivery process.
- **Project Delivery:** The MOU requires HTA to identify the reasons behind delays in obligated projects and submit a schedule of milestones that would accelerate federal aid allocations. The MOU also requires HTA to improve email communications, electronic project monitoring and financial billing. As of May 2020, HTA had fulfilled the requirements to accelerate project obligations. At the end of federal FY21 (September 2021), HTA obligated \$229.2M, representing 103.8% of the FY21 allocations which included \$35M in CRSAA, \$13M of the Omnibus Bill and 50% from FY20 carryforward. The obligated amount represents 144.3% of the regular annual allocations. The Authority has installed a new email communication system and improved its information systems, including an upgrade to a series of modules related to Human Resources, Inventory, and Contract Management. HTA has not finished the renovation of its project management information system, which is expected to be completed in early FY23. This

is particularly critical as HTA expends unexpended balances and seeks to deliver full disbursement expectations in the future.³⁵

HTA must continue to take all steps necessary to build upon the progress to date. All of the requirements of the MOU must be completed according to the timelines established by FHWA without further delay. Given that the implementation of the MOU is critical for the continuation of HTA's status as a federal grantee and for the uninterrupted development of infrastructure in Puerto Rico, it will be monitored on a monthly basis by the FOMB. Furthermore, HTA must fulfill the FHWA reporting requirements (Exhibit 13) to maintain and achieve SOGR. The status of these metrics and HTA's performance is outlined further in Chapter 4.

Exhibit 17: FHWA reporting requirements

FHWA reporting requirements			
Measure area	Performance measures	FHWA reporting cadence	FOMB reporting cadence
PM1: Safety	<ul style="list-style-type: none"> Number of fatalities / serious injuries Fatalities / serious injuries per million vehicle miles traveled Number of non-motorized fatalities and non-motorized serious injuries 	<ul style="list-style-type: none"> Annual HSIP reporting with: <ul style="list-style-type: none"> Targets and how they support SHSP¹ Outcomes 	<ul style="list-style-type: none"> Annual
PM2: Pavement Condition	<ul style="list-style-type: none"> Percentage of pavements of the Interstate System in Good/Poor condition Percentage of pavements of the non-Interstate NHS in Good/Poor condition 	<ul style="list-style-type: none"> Annual, 4 year perf. period <ul style="list-style-type: none"> Baseline Mid-period Full performance State and MPO reports USDOT report to congress 	<ul style="list-style-type: none"> Biennial
PM2: Bridge Condition	<ul style="list-style-type: none"> Percentage of pavements of the NHS System in Good/Poor condition 	<ul style="list-style-type: none"> State and MPO reports USDOT report to congress 	
PM3: System Performance	<ul style="list-style-type: none"> Interstate/Non-Interstate Travel Time Reliability Measure: Percent of person-miles traveled on the Interstate that are reliable 	<ul style="list-style-type: none"> Biennial, 4 year perf. period <ul style="list-style-type: none"> Baseline Mid-period Full performance State and MPO reports on performance USDOT report to congress 	<ul style="list-style-type: none"> Biennial
PM3: Freight Movement	<ul style="list-style-type: none"> Freight Reliability Measure: Truck Travel Time Reliability (TTTR) Index 	<ul style="list-style-type: none"> State and MPO reports on performance USDOT report to congress 	
PM3: Traffic Congestion	<ul style="list-style-type: none"> Peak Hour Excessive Delay (PHED) Measure: Annual Hours of Peak Hour Excessive Delay (PHED) Per Capita Non-Single Occupancy Vehicle Travel (SOV) Measure: Percent of Non-Single Occupancy Vehicle (SOV) Travel 		

3.5 Overview of Relationship with the Federal Transit Administration

Since its inception, HTA has assumed the ownership and operation of TU, San Juan's metro line. To support the operations of TU, HTA receives an annual operational allocation of \$20 million from FTA. This amount is occasionally supplemented by one-off grants that help HTA perform capacity or efficiency improvements (e.g., installation of a new communications system) and transit-related ER projects (e.g., vehicle repair). The BIL increased FTA formula funding allocations to transit agencies across the country. Although the precise allocation to HTA is not yet clear, HTA is estimated to receive an incremental ~\$1.6 million per year, based on its current capital needs and disbursement capacity.

As HTA advances efforts to transfer ownership and operation of TU to PRITA, per the reforms indicated in Chapter 12 of the Commonwealth Certified Fiscal Plan, the Authority will also need to ensure FTA grantee status is transferred as well as the relevant staff, capabilities and

³⁵ HTA has made progress in improving its rate of disbursements for regular capital expenditures, from 29% in FY19 to 88% in FY21. Potential for improvement remains, however, in Emergency Relief expenditures: in 2016, HTA's unexpended balances were at \$460M with Emergency Relief funding. As of September 2021, HTA's unexpended balances are at \$703M.

expertise. Additional funding from the CARES Act and funding from the American Rescue Plan (“ARP”) may provide additional transit funding through the FTA. These funds would be used to cover preventive maintenance costs for the TU, additional funding for the automated fare collection (“AFC”) improvements, operational costs and capital improvement projects.

CHAPTER 4: IMPACT OF HURRICANE MARIA, EARTHQUAKES & COVID-19

4.1 Overview of impact of natural catastrophes

Since FY18, Puerto Rico has been hit by a series of unforeseen emergencies: the most destructive hurricanes that has passed through the Island in the past century; several earthquakes with a magnitude of more than 5; and a pandemic that has necessitated a practical shutdown of economic activity and dramatically reduced road utilization. These catastrophes have collectively affected the operating revenues and capital delivery of HTA.

Exhibit 18: Historical and Projected Disbursements of Federal Emergency Funding

Federal and Local Emergency Relief Funds, FY19-26

ER Funding Source, \$M	FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY26
Federal ER Funds (FHWA)	71	42	20	34	59	65	30	22
Federal ER Funds (FEMA)	-	-	-	2	12	2	-	-
Federal ER Funds (CARES)	-	-	-	17	-	-	-	-
Total Emergency Relief Funds	71	42	20	53	71	67	30	22

To address the impact of these catastrophes, HTA has disbursed approximately \$133 million in emergency funding as of June 2021 and expects to disburse an additional \$241 million in emergency funding from FY22 to FY26.

4.2 Impact of Hurricane Maria on HTA Activities

Puerto Rico’s highways suffered significant damage following Hurricane Maria, prompting the issuance of 1,175 Detailed Damage Inspection Reports (DDIRs).³⁶ Roads and bridges were damaged and several stations of TU were rendered inoperable, causing TU to stop running for a period of three months. In addition to the damage of HTA’s transportation systems infrastructure, HTA’s operating revenues also declined as a direct result of the hurricanes combined destruction.

³⁶ DDIR forms are required to be submitted to the FHWA to determine if the event qualifies as an emergency relief (ER) disaster, establish the estimates for the eligible ER disaster damages and outline the scope of work through adequate location and description of damage information.

HTA's operating revenues consist primarily of toll and train fares. Due to the hurricanes effects on HTA's tolling system, Puerto Rico was forced to suspend fine collection, which was already a pre-existing problem for Puerto Rico due to pre-existing collection system deficiencies. Toll fare receipts have returned to pre-disaster levels; however, toll fine receipts are still lagging. The lag in toll fine receipts is due to fines not being restored until July 2021, period in which HTA resumed fine collections. Through December 2021, HTA has collected \$20.5 million in toll fines, which is significantly more than year to budget for that period (\$8.1 million). Similarly, transit ridership on the TU fell by almost 30% after the hurricanes³⁷ and has yet to recover to its pre-hurricane ridership levels as of June 2021, which are still 78% below pre-hurricane levels, mainly attributable to the COVID-19 pandemic.

HTA has disbursed ~60% of the emergency repairs associated with Hurricanes Irma and María. Over FY22-26, the delivery of the ER program must be accelerated. The improvements that have not yet been completed by HTA include a modular bridge installation, landslide repairs, bridge scouring repairs, safety device installation and other highway reconstruction projects. Proposals have been submitted for the first permanent repair projects associated with signage, safety and lighting improvements.

On January 7, 2020, an earthquake with a magnitude of 6.4 caused significant damage throughout Puerto Rico's south and southwestern region, prompting the closure of segments of roads, including short segments of two major roads: PR-52 (km 106 in Ponce), PR-2 (km 218 at Peñuelas and km 153.9 in Mayagüez). As a result, the Federal Government classified several municipalities as major disaster areas.³⁸

All roads were promptly opened using FHWA ER funds, including an initial \$5 million allocation of quick release from ER funds. Initially, HTA had estimated the damages to these roads to be approximately \$26.1 million, including both emergency and permanent repairs.³⁹ For these repairs, the FHWA allocated \$14.1 million, ~60% of which (\$8.8 million) have already been disbursed by HTA. In addition, approximately \$3.6 million is estimated to require state funds, mostly for permanent repairs, matching and engineering services. HTA also plans to begin the design of permanent repairs for major structure rehabilitation and replacement, as well as sites where rockfall and landslides were experienced.

4.3 Impact of COVID-19 on HTA activities

The onset of COVID-19 in March 2020 quickly and dramatically impacted HTA's operations and financial performance. The below exhibits show the impact of lockdowns on monthly toll road transactions, TU ridership and capital project delivery. As the below exhibits indicate, HTA's four toll roads experienced a forty-five percent (45%) decline in the number of monthly toll transactions, dropping from 10.3 million per month⁴⁰ on average in toll transactions prior to

³⁷ HTA Tren Urbano Ridership Data, comparing 12 months before Hurricane Maria with 12 months after Tren Urbano operation was restored.

³⁸ The municipalities of Ponce, Guánica, Guayanilla, Yauco, Utuado, Peñuelas, Adjuntas, Cabo Rojo, Corozal, Jayuya, Lajas, Lares, Maricao, San German, San Sebastian and Villalba were declared as major disaster areas as a result of the January 7, 2020 earthquakes.

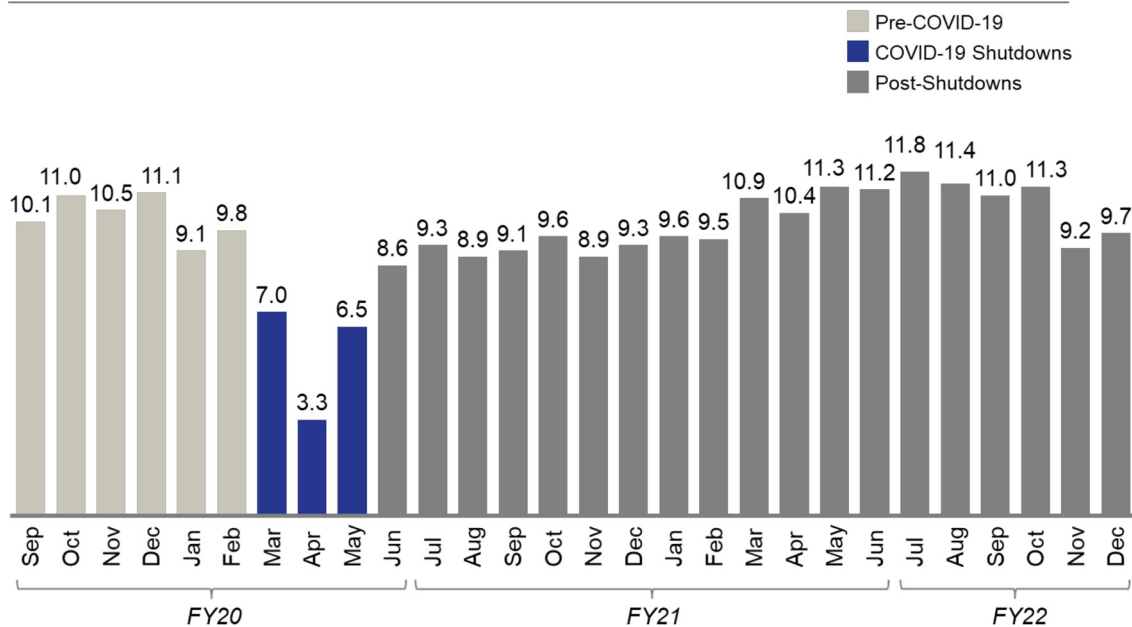
³⁹ Damage estimates included herein are based on events and preliminary designs to date and thus may increase in future.

⁴⁰ Average monthly transactions for the six-month period from September 2019 through February 2020 (prior to COVID-19).

COVID-19, to an average of 5.6 million per month⁴¹ during the height of the pandemic. Nonetheless, fiscal year 2021 and 2022 monthly toll transactions have been noted to approximate pre-COVID levels, reaching a monthly average of 9.8 million toll transactions for 2021⁴², and 10.7 million toll transactions for fiscal year 2022 through December 2021.

Exhibit 19: Monthly Toll Transactions for HTA-operated Toll Roads, FY20, FY21 & FY22 YTD

Monthly toll transactions on PR-20, PR-52, PR-53 and PR-66, Millions



Transit assets experienced an even more dramatic decrease, given TU and feeder bus service were entirely shut down from mid-March until July 2020 and again in August and September 2020. Contrary to toll transactions, transit demand showed slower improvements, as the average monthly TU revenues remained approximately 64% below their pre-COVID levels for fiscal year 2021⁴³, although fiscal year 2022 has shown more consistent improvements.

COVID-19 has also caused significant delays in construction project schedules, leaving HTA unable to achieve its target KPI for project duration. As of March 31, 2020, post-María repair projects presented a 22.8% increase in project duration, originally was within the KPI target.⁴⁴ While HTA continues to monitor the effects of the COVID-19 pandemic on its capex program, the projected duration on the post-hurricane repair projects have been noted to increase to 64.3%⁴⁵, which does not meet the “on-time” delivery target for the project duration metric. The

⁴¹ Average monthly transactions for the three-month period from March 2020 through May 2020 (COVID-19 shutdowns).

⁴² Average monthly transactions for the twelve-month period from July 2020 through June 2021 (post-lockdown period).

⁴³ When comparing the six-month period from September 2019 through February 2020 (prior to COVID-19) against the six-month period from January 2021 through June 2021 - most recent six months for fiscal year 2021, which pertain to the post-lockdown period.

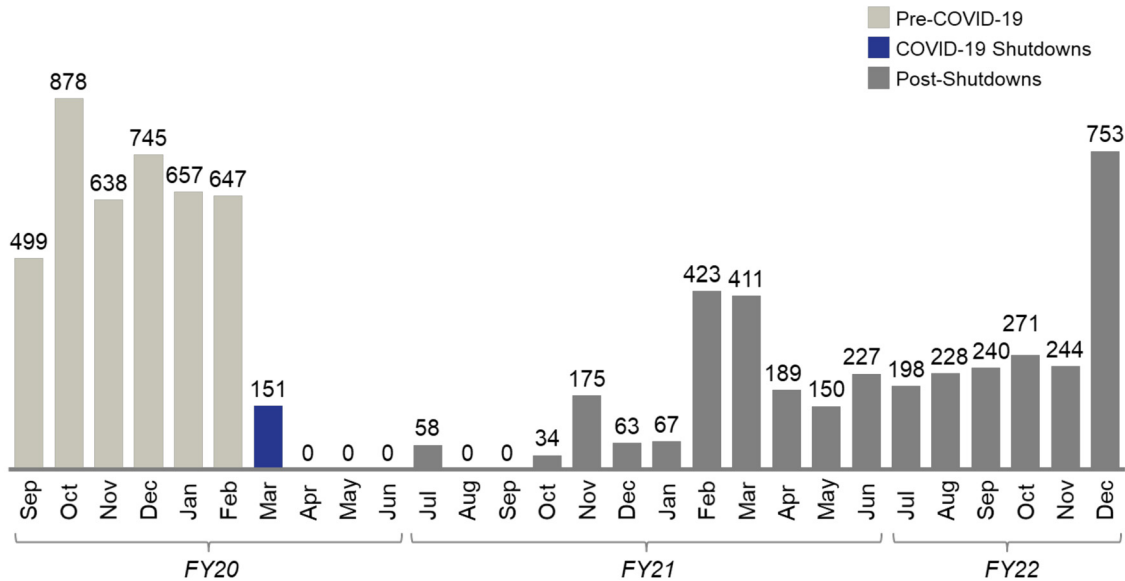
⁴⁴ KPIs as established within HTA's MOU with FHWA set the target for change in duration (program level) to be acceptable at <25%.

⁴⁵ As reported in HTA's B2A reporting for the month ended June 30, 2021.

significant increase is largely attributable to fifty-six days of lockdown-required extensions and projected additional delays.

Exhibit 20: Monthly Transit Revenues for TU, FY20, FY21 & FY22 YTD

Monthly transit revenues, \$ Thousands



HTA has enacted and implemented standard operating procedures (SOPs) to operate effectively under the present conditions, allowing HTA to partially mitigate the impact of the pandemic and the lockdown. HTA has established procedures to make payments to critical contractors, consultants and suppliers both during the lockdown and upon resumption of construction and other field operations, upholding the terms of the MOU with FHWA. Despite the lockdown, contractors have continued to retain and pay their workforce. Expediting payment for work completed is a priority to mitigate extended negative economic impact during the lockdown and keep contractors' financial condition more stable. HTA also implemented remote procedures for documentation required when partial field operations resume, including requests for information (RFIs), Change Orders (COs) and Extra Work Orders (EWOs) and accepting electronic documents instead of physical copies. HTA has also created SOPs to maintain compliance with protocols and alignment of resources to manage the federal reimbursement process remotely.

Furthermore, HTA may have to address significant contractor claims due to the impact of COVID-19. The Agency is working closely with FHWA to determine the impact of these claims, which include extended overhead and extra cost for changed conditions. Due to the uncertainty about the validity of the claims, this risk is not reflected in the Certified Fiscal Plan.

PART IV – INFRASTRUCTURE AGENDA

Given the current condition of the network and years of under-investment, HTA's capital program should prioritize investments to achieve and maintain a SOGR of roads and transit assets.⁴⁶ With a projected decline in population (reduction of ~913,000 people by 2051) and a declining gross national product (GNP) (~10% decline by 2051), a focus on SOGR, instead of enhancements to road networks, promotes an effective use of funding and optimizes existing transportation assets. In an era of decreasing economic activity, population and travel demand, the Authority needs to prioritize maintaining its existing roads, highways and bridges over building out additional capacity. Therefore, the primary goal of HTA's capital program should be to keep Puerto Rico's roads, highways, bridges and transit in SOGR. Projects that advance SOGR for assets will be prioritized under the Infrastructure Agenda and any projects with aims outside of SOGR improvement will be subject to stringent evaluation criteria.⁴⁷

HTA's historical inability to achieve SOGR cannot be attributed to a lack of sufficient federal funding. HTA has repeatedly failed to deploy the full availability of its annual federal formula funding and historically has received far below its fair share of discretionary funds. HTA's historical underperformance in CapEx delivery can be mostly attributed to the lack of a robust project selection framework and of effective performance management mechanisms across capital project delivery lifecycle

The 2022 HTA Fiscal Plan calls the Authority to address these issues and implement comprehensive productivity improvements. These improvements would enable HTA to take advantage of available federal funding, which is expected to reach unprecedented levels given the enactment the BIL. In doing so, HTA should clear its backlog of federally funded projects from prior years and maximize the use of its annual FHWA allowance. HTA should pursue Community Block Development Grants (CDBG-DR) to carry out special recovery projects that improve the condition of assets which have been significantly damaged by natural catastrophes during FY17-19. Lastly, HTA should actively explore other discretionary fund opportunities, such as INFRA (supporting projects with beneficial impact on economic development) and RAISE (boosting investments in safety and environmental sustainability). If HTA receives its fair share of discretionary federal grants, investment into the system would increase by ~\$90m per year.

HTA has made notable recent progress in improving its rate of capital disbursements—particularly in FY20, when HTA was achieving ~90% and above of the plan before the onset of COVID-19. HTA's performance to date in FY22 sustains this progress, with ~89% of planned construction disbursements completed.

The 2022 HTA Fiscal Plan sets the level of capital investments for HTA based on several inputs. A historical analysis of HTA's recent capital spending disburses suggests an “upper limit” to its capacity: in the past four fiscal years, total disbursements have not exceeded \$360 million in a given year, and “core highway” capital expenditures (total minus transit and emergency spending) have not surpassed \$320 million. A third-party report recently commissioned by HTA further considers difference investment scenarios, with different implications on asset condition targets by year.

⁴⁶ See Chapter 5.

⁴⁷ See Chapter 6.

Taking these factors into consideration, a construction budget of \$11.6 billion dollars is set aside for FY22-FY51. This level of investment enables HTA to achieve the performance benchmarks contemplated in the third-party report, forecasted to achieve SOGR of both toll and non-toll assets by 2039. The proposed capital improvement plan includes a “surge” level of investments through FY28, consistent with the 2021 Certified Fiscal Plan, to accelerate the investment in the system and address the backlog associated with years of prior underinvestment.

The 2022 HTA Fiscal Plan also assumes state funding for discretionary project soft costs in FY22, but no further state investments in projects that go beyond SOGR. Any such projects would need to be financed through federal discretionary grants. HTA should set up a dedicated team that will research available opportunities, identify projects well aligned with specific discretionary programs and develop projects and applications for these discretionary grants, as outlined in Chapter 11. Absent successfully securing these grants, the focus of the capital program should remain on achieving SOGR.

CHAPTER 5: ACHIEVING A STATE OF GOOD REPAIR

5.1 Bringing HTA’s roads to SOGR

Currently, Puerto Rico is ranked 51 out of 52 for quality of roads in the United States, imposing economic costs on its residents, decreasing safety and increasing the overall cost of road maintenance.⁴⁸ Well-maintained roads reduce vehicle operating costs, bolster quality of life for residents who commute daily and make Puerto Rico more competitive both for tourism and major industries responsible for the movement of significant exports and imports. This makes improving the condition of Puerto Rico’s roads a key part of the broader structural reforms the Commonwealth is undertaking to grow Puerto Rico’s economy, attract investors, increase jobs, promote business and broadly encourage economic development. Furthermore, a more resilient infrastructure network will allow Puerto Rico to be better prepared for future natural disasters.

As of 2021, 14% of interstate pavement is in poor condition, above the 5% maximum limit specified by FHWA. Furthermore, only 13% of interstate pavement and 4% of non-interstate pavement in Puerto Rico are in good condition, which is significantly below the target performance of 84% and 57% respectively, indicating that much progress must be made for the remaining pavement to meet the needs of Puerto Rico’s residents. To address the overall condition of road pavement, HTA should adopt project-level KPIs to achieve capital delivery progress towards meeting FHWA requirements and eventually, target performance.

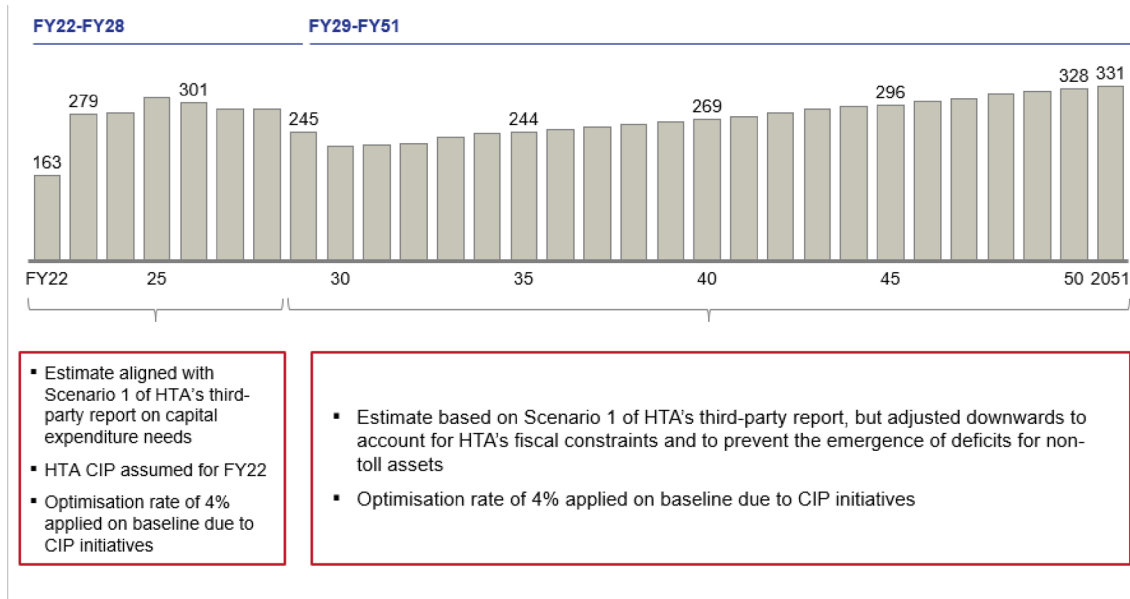
According to the recent third-party estimate commissioned by HTA,⁴⁹ the agency’s assets can reach minimum SOGR targets for roads and bridges by 2036 via spending \$4.7 billion (hard costs). The 2022 HTA Fiscal Plan takes into account this third-party expert analysis, as well as peer state long-run capital expenditures (on a per lane mile basis) and HTA’s fiscal

⁴⁸ Cost of maintaining the system frequently measured as “Lifetime Cost of Ownership,” or the total cost of repairs for maintenance of a specific section of a highway or road. It is expected that letting roads deteriorate increases maintenance repairs in the long run, leading to higher total costs than if they would have been kept at SOGR.

⁴⁹ Analysis of investment needs for PRHTA Talled and Non-talled Highways, CMA Engineers, December 2021

necessities in the long term (I.e., capital investments cannot be made without a corresponding source of revenue).

Since FY19, HTA has made progress towards goal of SOGR, having disbursed an estimated \$747 million.⁵⁰ Between FY22-39, the 2022 HTA Fiscal Plan calls for an annual average disbursement of \$253 million (hard costs) to fully “catch up” with pavement SOGR targets. Thereafter, the Fiscal Plan calls for an average annual investment of \$301 million in hard costs (see Exhibit 21).



As described in Chapter 14, new P3s on HTA toll roads have the potential to accelerate progress toward SOGR. The Metropistas P3 for PR-22 and PR-5 provides a reference example. Since 2011, Metropistas has contributed \$1.6 billion to HTA for the right to operate and collect tolls on PR-22 and PR-5. These funds have been used to reduce existing debt, improve road quality and accelerate safety improvements.⁵¹

5.2 Current State of HTA's transit network

TU continues to stagnate in its ability to be an effective and efficient transit system capable of serving riders' needs in the San Juan metropolitan area. While TU was initially projected to attain a monthly ridership of approximately 3.4 million passengers per month by 2010,⁵² it currently has a ridership of only approximately 0.12 million passengers per month. TU's transit farebox recovery ratio (the share of expenses covered by fare revenues) is down to 4% from 17% in 2017.⁵³ Peer systems, meanwhile, currently have a farebox recovery ratio of 12%, while prior to COVID they were closer to ~25%. Peers are expected to return to the 20-23% range

⁵⁰ From year-end Budget-to-Actuals reports. \$177M in FY19, \$248M in FY20 and \$322M in FY21.

⁵¹ https://www.fhwa.dot.gov/ipd/project_profiles/pr_pr22_and_pr5_lease.aspx

⁵² Review of the Tren Urbano Finance Plan, US General Accounting Office, Dated 03/31/2000, p.2.

⁵³ Reflects farebox revenue ratio (FRR) of FY22 (as of December 2021); FY21 FRR is closer to 2% due to shutdown periods in 2020.

in the next two to three years. As such, the percent of non-fare directly generated public transit revenue (as a percent of total transit revenue) in Puerto Rico is about half of the US median.

TU has suffered from mismanagement that predates its initial construction. Construction took 75% longer than expected, delaying TU's opening by four years and consequently increasing project costs from \$1.5 billion to \$2.3 billion. A 2018 assessment after Hurricanes Irma and María found that more than 50% of the turnstiles (barriers) are not operational; 20% of the ticket vending machines ("TVMs") have defects; the software is outdated; and the system is not Payment Card Industry ("PCI") compliant, which prevents users from purchasing tickets with debit and credit cards. Consequently, the current condition of the TU results in public accessibility reduction, reduced attractiveness of facilities and a lower quality of service. TU has failed to fix these problems despite the availability of federal funding since 2012 and as such, TU continues to witness decreasing revenues and ridership. HTA needs to make the necessary capital expenditures to repair the point-of-sale (POS) machines as an initial step to improve the transit system. These steps are further discussed in Chapter 11, which includes fiscal measures expected to drive revenue increases and improve TU operation.

CHAPTER 6: CURRENT CAPITAL DELIVERY PROCESS AND OUTCOMES

Historically, Puerto Rico's transportation system has suffered from underinvestment and lack of a clear process for delivering capital programs. From FY1996 to FY2004, HTA averaged \$661 million⁵⁴ in total capital disbursements per year, excluding TU investments and including capacity enhancement projects such as new road construction (see Exhibit 22). By FY07, however, as the recession hit Puerto Rico, capital spending decreased to below \$400 million annually, falling to \$257 million in FY08. During the years prior to Hurricane María, spending continued to decline, reaching a low point of \$168 million in FY18.

In FY19, HTA disbursed only 29% of its budgeted capital expenditures.⁵⁵ HTA's inability to spend was driven by difficulty in finding construction labor (due to the increased need for projects on the island after Hurricane María), operational inefficiencies and procurement delays.

For FY20, HTA set goals to increase planned spend and ensure that all planned spend was indeed disbursed. Between Q1 and Q2 of FY20, HTA disbursements were tracking to 90% and above of targets due to operational improvements, including timely payment of contractors and effective project prioritization. However, after multiple earthquakes and the onset of the COVID-19 pandemic, HTA was unable to meet its targets for the remainder of FY20, averaging 52% of budgeted capital expenditures.⁵⁶ As of FY21, HTA has performed markedly better, disbursing 88% of budgeted capital expenditures (hard costs) for the fiscal year (see Exhibit 19 below).

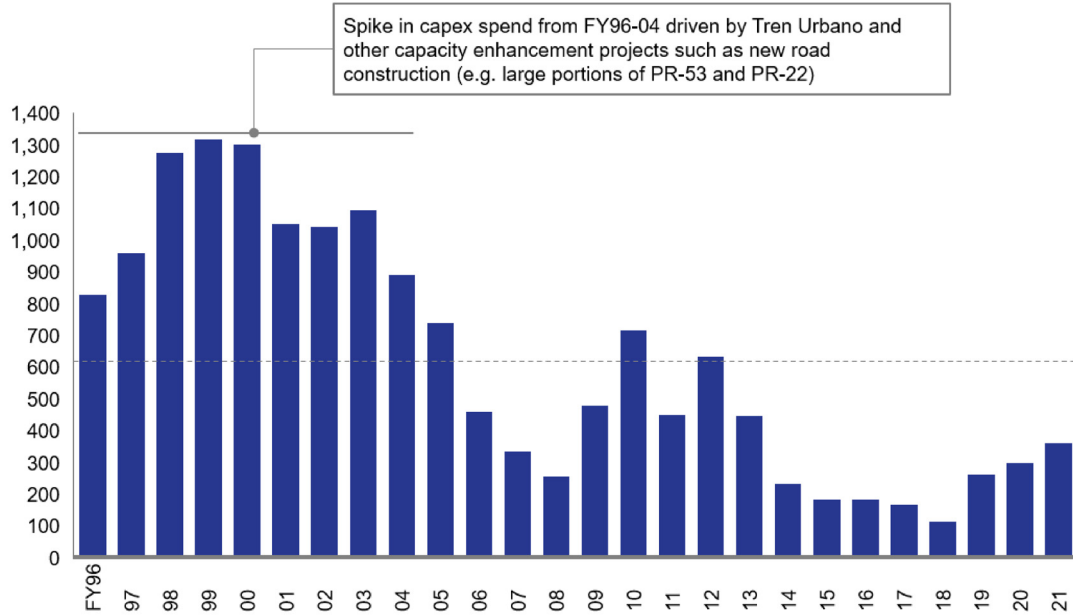
⁵⁴ In 2018 \$USD.

⁵⁵ HTA July 2019 B2A reporting

⁵⁶ HTA June 2020 B2A reporting

Exhibit 22: Construction Historical Disbursements⁵⁷

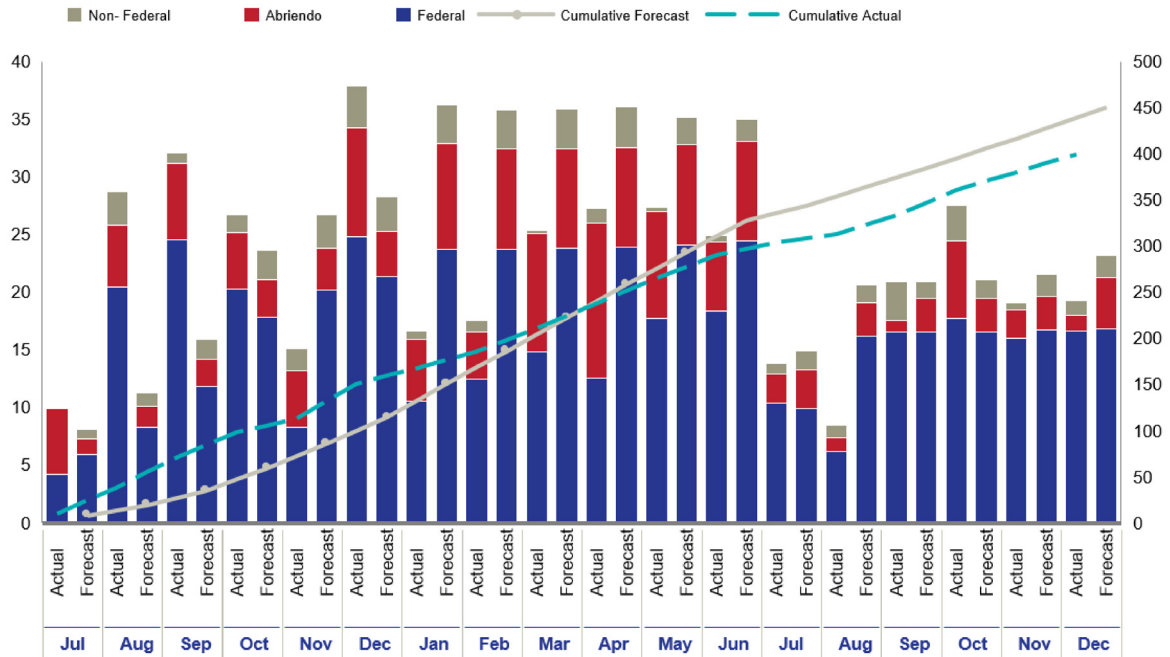
Total annual capex spend¹, \$M Adjusted to 2018 USD



¹ Total CIP expenses. Includes Transit CIP.
SOURCE: PRHTA Data

Exhibit 23: HTA capital project delivery budget-to-actuals, as of December 31, 2021

FY21-FY22 (YTD) actuals vs. budget, monthly hard cost disbursements, \$M



⁵⁷ Includes Total capex spend which is non-Federal and Federal construction hard and soft costs as well as Transit CIP and capital ROW payments.

To ensure HTA focuses both on building the right projects and achieving target spending levels in a given year, HTA follows a structured capital improvement plan update process. The output of this process is a list of prioritized projects to be delivered over the next five years with anticipated disbursements for each year.

Currently, this CIP is developed in an ad-hoc manner, with project selection driven primarily by regulations and requirements of each funding source. Safety is a frequently emphasized factor in project selection across all funding sources. For regular FHWA funds for the Highway Improvement Program, projects are selected by giving priority to high-volume expressways, ensuring funds are spread geographically across the Island.

HTA must adopt a more systematic, data-driven approach to project selection, utilizing a prioritization framework similar to that introduced in the 2020 Certified Fiscal Plan. The framework focuses on the outcomes of the system and further utilizes specific metrics, allowing HTA CapEx planning teams to determine asset condition and prioritize delivery of projects that provide the most value. Chapter 13 provides further detail and lays out several additional measures that HTA must adopt to further increase the efficiency of its project delivery.

Exhibit 24: HTA CIP Prioritization Framework

Decision Criteria	Long Range Transportation Plan (LRTP) Goal	Weight	Corresponding Objectives
Achieve a state of good repair	System Performance	30	<ul style="list-style-type: none"> Improve/maintain condition of capital assets
Improve performance of most critical corridors	System Performance; Economic Vitality; Mobility and Accessibility	25	<ul style="list-style-type: none"> Improve intersection performance, system bottlenecks and transit Increase operational capacity in a cost-effective manner Improve performance of freight and high travel corridors Prioritize the completion of projects which connect to ports and economic centers, and complete the island's strategic highway network
Resiliency, safety and emergency response	System Performance; Environmental Sustainability	20	<ul style="list-style-type: none"> Improve safety, resiliency and emergency response Improve resiliency and emergency response Reduce reliance on motorized travel, promote energy efficiency, and incorporate "reduce, reuse, recycle", practices in delivering infrastructure
Promote alternative modes of travel	Environmental sustainability; Mobility and Accessibility	15	<ul style="list-style-type: none"> Invest in redevelopment of urban centers to reduce need for motorized travel Improve coverage, capacity and service of alternative modes of travel Improve modal connectivity (first mile/last mile) Improve coverage, capacity and service of alternative modes of travel
Ensure cost effective-ness	Mobility and Accessibility	10	<ul style="list-style-type: none"> Cost effectiveness assuming mobility benefits Provide mobility for transportation-disadvantaged populations

Current progress against capital program KPIs

To achieve the goals of its capital program, HTA sets and monitors performance targets at various stages and outcomes for the capital program and capital processes. Many of the metrics meet performance standards, while some fall short. For preconstruction, HTA is on target for delays in notice to proceed notification letters (NTP) by a margin of 13 days, but its percentage of planned NTP awards is below the <80% target at 43%. HTA has consistently failed to provide the ratios of soft costs to hard costs. For construction, HTA is slightly below target, with only 88.6% of planned federal funds obligated to date. However, it is on target for changes in cost, with actual costs exceeding plans by 12.6%. The KPI that measures percentage change in duration of projects was a challenge during the COVID-19 pandemic, which caused significant project delays. As of Q4, there is a 70% change in duration of projects, resulting mostly from the lockdown-mandated 56-day extensions. Finally, the disbursement variance for projects is still above the 20% target at 25%.

Exhibit 25: HTA Capex KPI performance, FY21

Strategic priorities	Metrics ¹	FY20 Actual	FY21 Actual	Target
Preconstruction Program	Delays in NTP (Days from plan – Program Level) Quarterly – Cumulative	6 Days	15.8 Days	<30 Days
	% of Planned NTP Awards (Program Level) Quarterly	100%	43%	>80%
	% of Federal Funds Obligated (Program Level) Annual	N/A	88.6% ¹	>90%
	% Soft vs Hard Costs (Program Level) Annual – Previous Year	N/A	N/A	15%
Construction Delivery	% Change in Cost (Program Level) Quarterly - Cumulative	1%	12.6%	<15%
	% Change in Duration (Program Level) Quarterly - Cumulative	5%	70.0%	<25%
	Disbursement Variance (Program Level) Quarterly - Cumulative	2%	25%	<20%
Capital Improvement Program	Disbursement Variance (Program Level) Quarterly - Cumulative	N/A	N/A	20%

¹ Applies to regular funds only. Per most recent estimates, 65.9% of emergency relief funds have been obligated.

The previously presented KPIs are reported at a program level. However, to provide more granularity in the reporting of KPIs for the CIP, HTA has developed project level KPIs for FY21 based on the type of contract and type of construction project. The KPIs were recommended based on the level of risk in managing cost and time overruns in typical highway construction projects, the level of design carried out, the procurement approach and the construction contract terms and conditions. Exhibit 26 below provides the reasoning behind the target performance level.

Exhibit 26: KPIs by contract and project type

Category	Project Level KPI	Description	Cost Overrun	Time Overrun
Contract Type	Singular Regular (without bonus)	Regular construction contracts where payment is executed based on unit prices for predefined pay items.	20%	50%
	Singular with Early Completion Bonus	Bonus included for either completing the project or for a specific milestone.	20%	25%
	Hybrid Contracts	These are lump sum contracts that include an allowance for several items with high risk of change during construction (e.g., length of driven piles, or excavation of rocks).	15%	20%
	Hybrid Contracts with Early Completion Bonus	Include no excuse (FDOT Type) completion bonus	15%	15%
Project Type	Critical Findings ¹	These are relatively small projects focused on repairing a condition that caused a low load rating on the bridge.	50%	100%
	Accelerated / Abbreviated PS&Es	Highway reconstruction projects focused on pavement, safety devices and bridge preservation with the objective of maintaining SOGR of our highway system.	20%	50%
	Emergency Projects with Fixed Costs	Emergency Repair projects where construction costs are determined based on fixed unit prices approved by FHWA. Emergency repair projects do not have a detailed design nor previous studies. The SOW is adjusted in the field.	N/A	N/A
	Design Build Projects	With design-build delivery, the design-builder assumes responsibility for the majority of the design work and all construction activities, together with the risks associated with providing these services for a fixed fee. The agency procures the DB project with a schematic or preliminary design.	15%	25%
	Task Order Projects	Multiple projects are authorized by means of task orders, generally executed for emergency repairs. Change-orders to contracts require increasing the budget to execute additional task orders.	N/A	N/A

These proposed project level KPIs were developed in collaboration with FOMB and have been reported on a quarterly basis since the first quarter of FY22. Target performance was established based on the capital expenditure levels projected in the May 2021 Certified Fiscal Plan and are subject to revision in FY23 accordingly.

Despite significant delays and unforeseen challenges due to COVID-19, HTA's progress in recent years reveals a path forward to achieving key performance target metrics. In FY23 and onwards, HTA must adopt and utilize the project prioritization framework (see Exhibit 24), further detailed in Chapter 13, to ensure that capital delivery improvement continues to approach and achieve target KPI metrics.

CHAPTER 7: DISCRETIONARY FUNDS FOR STRATEGIC PROJECTS

As outlined in Chapters 5 and 6, HTA's capital priority is to achieve and sustain SOGR on its transportation assets. As such, regular state and federal appropriations are used for SOGR projects, while any non-SOGR projects (e.g., strategic enhancements to the highway network) must use an alternate source of funding.

Given the potential availability of federal discretionary funds for mitigation and disaster relief, as well as the recently passed BIL, HTA may be able to pursue strategic projects that will

provide resiliency to the strategic highway network and economic development at a regional level. To fund these strategic projects, HTA should explore alternative non-state funding sources including discretionary grants, new revenue opportunities, or public-private partnerships. HTA should prioritize discretionary federal grants such as:

- Community Development Block Grant – Disaster Recovery/Mitigation (CDBG-DR/MIT),
- Rebuilding American Infrastructure with Sustainability and Equity (RAISE),
- Infrastructure for Rebuilding America (INFRA) grants for highway projects and
- Capital Investment Grants (CIG) for transit projects.⁵⁸
- Low or No Emission Vehicle Program (created in the recent Infrastructure Investment & Jobs Act)
- Congestion Relief program (created in the recent Infrastructure Investment & Jobs Act)

The 2021 Certified Fiscal Plan included annual investments for HTA to build a grant management team to ensure that Puerto Rico is competitive in federal discretionary funding decisions, funding sustained in the 2022 HTA Fiscal Plan.

Discretionary funding, if secured, may allow HTA to evaluate additional projects as prioritized by the framework. Examples of strategic, non-SOGR projects include:

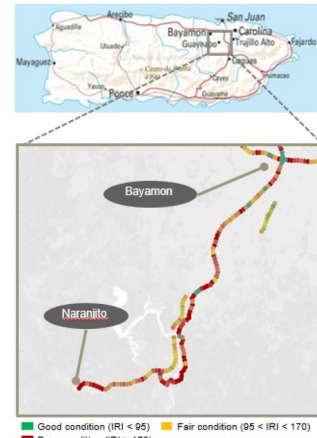
- **Completing PR-10, connecting Utuado and Adjuntas:** Construction of the four remaining segments of PR-10 between Utuado and Adjuntas, with an approximate investment of \$217M. Currently, the users must take the PR-123, a tertiary road highly vulnerable to disaster events. The project will provide a fast, safe and modern connection in the central region of Puerto Rico. It will improve the movements of goods and services while connecting the industrial and agricultural areas with Rafael Hernández airport in Aguadilla and the existing and proposed ports located at the south region between the municipalities of Penuelas and Ponce.



⁵⁸ More information on BUILD grants can be found here: <https://www.transportation.gov/BUILDgrants>; more information on INFRA grants can be found here: <https://www.transportation.gov/buildamerica/financing/infra-grants/infrastructure-rebuilding-america>; more information on CIG grants can be found here: <https://www.transit.dot.gov/CIG>

▪ **Extension of PR-5 from Bayamón to Toa Alta:**

Construction of the pending segment of PR-5 Expressway between its intersection with PR-199 in the Municipality of Bayamón and the intersection with PR-167 in the Municipality of Toa Alta, at an estimated investment of \$155 million. The new segment will serve as an alternate to PR-167, a two-lane road in each direction that traverses the municipality of Bayamón and is subject to traffic congestion and safety problems. The project would provide a fast, modern and safe road connection between the municipalities of the central region (i.e., Naranjito, Orovois, Ciales, Comerío and Barranquitas) with the San Juan Metropolitan Area.



▪ **Extension of PR-22 from Hatillo to Aguadilla:**

Construction of the extension of the toll highway PR-22 from its intersection with PR-2 in the Municipality of Hatillo to its intersection with PR-11 in the Municipality of Aguadillas, requiring an investment of \$102 million. Currently, PR-22 from San Juan to Hatillo and PR-2 from Hatillo to Aguadilla constitute the main route connecting the northwest region of the island with the San Juan Metropolitan Area. The PR-22 extension is expected to reduce travel time and improve highway capacity. The proposed project could also serve as an alternative route to PR-2 during emergencies and as a tsunami evacuation route for communities located close to the north coast.



If HTA is not able to secure additional sources of funding, the financial feasibility of investing in strategic non-SOGR projects across non-toll roads is very low. Funding for these is provided by Commonwealth transfers, which is only available for non-toll assets and should meet the evaluation criteria using the metrics set forth in Chapter 13.

PART V – CURRENT BASELINE FINANCIAL PROJECTIONS

In the absence of any fiscal measures, HTA's toll assets are expected to have a cumulative surplus of \$0.3 billion over the Fiscal Plan period, however, non-toll assets are expected to run a cumulative deficit of \$1.4 billion, given that Commonwealth transfer allocations (\$3.3 billion of operating funds and \$2.0 billion of capital funds) are not sufficient to fund the capital needs of these assets.

The level of the cumulative deficit, even when operating and capital transfers from the Commonwealth are factored in, emphasizes the need for revenue enhancements and cost savings to ensure the fiscal sustainability of non-toll assets. Without implementation of fiscal measures, the level of the Authority's dependence on toll revenues and funding from the Commonwealth is unsustainable. To improve its capacity to balance costs and investments, HTA needs to implement the fiscal measures described in more detail in Chapters 10 through 13.

Exhibit 27: Combined HTA Baseline Financial Performance

Item, \$M	FY22	FY23	FY24	FY25	FY26	FY22-26	FY22-51
Toll fares	141	141	138	136	136	691	4,035
Toll fines	23	22	22	22	22	110	616
Other income	10	10	10	9	7	45	204
Transit fares	3	5	7	7	7	29	200
Operating FTA funds	20	20	20	20	20	100	600
Total operating revenues	196	197	197	195	191	975	5,655
TU Operation & Maintenance	(71)	(71)	(70)	(83)	(74)	(368)	(2,660)
Toll Highways Administration & Maintenance	(43)	(45)	(45)	(46)	(46)	(226)	(1,527)
Salaries & Related Benefits	(23)	(20)	(19)	(18)	(18)	(98)	(572)
Pensions	(36)	(36)	(36)	(36)	(35)	(178)	(790)
Other Operating Expenses	(33)	(32)	(29)	(20)	(20)	(135)	(812)
ROW payments	(8)	(8)	(10)	(10)	(10)	(46)	(58)
Integrated Transportation System	(11)	(9)	(9)	(9)	(9)	(47)	(336)
Litigation Reserve	(4)	(4)	(4)	(2)	(2)	(15)	(63)
Total operating expenses	(228)	(226)	(222)	(224)	(214)	(1,113)	(6,818)
Total operating balance	(33)	(28)	(25)	(29)	(23)	(138)	(1,163)
Regular FHWA funds	149	269	249	264	229	1,160	6,327
Regular CW CapEx appropriation	53	54	54	55	56	272	2,002
Non-regular CW CapEx funds ¹	90	-	-	-	-	90	90
Emergency Funds	53	71	67	30	22	244	244
Capital FTA funds	53	39	21	17	43	174	717
Total capital contributions	398	433	391	366	350	1,939	9,380
Capital ROW payments	(3)	(4)	(4)	(4)	(4)	(20)	(145)
Local construction costs	(10)	(10)	(10)	(10)	(10)	(50)	(361)
Highway construction hard costs	(163)	(281)	(282)	(313)	(306)	(1,345)	(8,296)
Highway construction soft costs	(55)	(72)	(61)	(62)	(62)	(312)	(1,902)
Emergency repair costs	(36)	(81)	(76)	(35)	(26)	(254)	(254)
Toll optimization costs	-	-	-	-	-	-	-
Transit construction costs	(54)	(40)	(21)	(18)	(44)	(176)	(729)
Construction salaries & benefits	(29)	(25)	(25)	(25)	(26)	(130)	(928)
Other construction programs	(2)	(2)	(2)	(2)	(2)	(8)	(59)
Total capital expenses	(352)	(514)	(482)	(468)	(479)	(2,295)	(12,675)
Total capital balance	46	(81)	(91)	(102)	(128)	(355)	(3,295)
Total aggregate balance	14	(109)	(116)	(130)	(151)	(493)	(4,458)
CW Transfer	-	179	138	136	148	600	3,284
Final aggregate balance	14	69	22	5	(3)	107	(1,173)

Exhibit 28:Toll Roads Management Office Baseline Financial Performance

Item, \$M	FY22	FY23	FY24	FY25	FY26	FY22-26	FY22-51
Toll fares	142	142	139	138	137	698	4,076
Toll fines	9	9	9	9	9	45	250
Other income	4	4	4	4	3	19	86
Transit fares	-	-	-	-	-	-	-
Operating FTA funds	-	-	-	-	-	-	-
Total operating revenues	155	155	152	150	148	761	4,412
TU Operation & Maintenance	-	-	-	-	-	-	-
Toll Highways Administration & Maintenance	(43)	(45)	(45)	(45)	(45)	(222)	(1,499)
Salaries & Related Benefits	(7)	(6)	(6)	(6)	(6)	(30)	(177)
Pensions	(7)	(7)	(7)	(7)	(7)	(34)	(152)
Other Operating Expenses	(18)	(18)	(16)	(11)	(11)	(74)	(447)
ROW payments	(1)	(1)	(2)	(2)	(2)	(8)	(11)
Integrated Transportation System	-	-	-	-	-	-	-
Litigation Reserve	(1)	(1)	(1)	(0)	(0)	(3)	(11)
Total operating expenses	(77)	(78)	(76)	(70)	(71)	(371)	(2,297)
Total operating balance	78	77	76	80	78	390	2,114
Regular FHWA funds	4	47	-	-	-	51	51
Regular CW CapEx appropriation	5	6	-	-	-	11	11
Non-regular CW CapEx funds ¹	9	-	-	-	-	9	9
Emergency Funds	6	11	0	-	-	17	17
Capital FTA funds	-	-	-	-	-	-	-
Total capital contributions	24	64	0	-	-	88	88
Capital ROW payments	(0)	(1)	(0)	(1)	(1)	(2)	(24)
Local construction costs	-	-	-	-	-	-	-
Highway construction hard costs	(8)	(58)	(33)	(41)	(48)	(190)	(1,427)
Highway construction soft costs	(2)	(3)	(1)	(7)	(7)	(20)	(303)
Emergency repair costs	(4)	(13)	(2)	(1)	(1)	(21)	(21)
Toll optimization costs	-	-	-	-	-	-	-
Transit construction costs	-	-	-	-	-	-	-
Construction salaries & benefits	(3)	(3)	(3)	(3)	(3)	(16)	(111)
Other construction programs	(0)	(0)	(0)	(0)	(0)	(1)	(11)
Total capital expenses	(19)	(78)	(40)	(53)	(60)	(250)	(1,897)
Total capital balance	5	(14)	(40)	(53)	(60)	(162)	(1,809)
Total aggregate balance	83	64	36	27	18	228	305
CW Transfer	(72)	-	-	-	-	(72)	(72)
Final aggregate balance	11	64	36	27	18	156	233

Exhibit 29: Non-toll Roads Assets Baseline Financial Performance

Item, \$M	FY22	FY23	FY24	FY25	FY26	FY22-26	FY22-51
Toll fares	(1)	(1)	(1)	(1)	(1)	(7)	(40)
Toll fines	14	13	13	13	13	65	366
Other income	5	5	5	5	3	22	98
Transit fares	-	-	-	-	-	-	-
Operating FTA funds	-	-	-	-	-	-	-
Total operating revenues	17	16	16	16	15	80	424
TU Operation & Maintenance	-	-	-	-	-	-	-
Toll Highways Administration & Maintenance	(1)	(1)	(1)	(1)	(1)	(4)	(28)
Salaries & Related Benefits	(10)	(9)	(8)	(8)	(8)	(42)	(246)
Pensions	(25)	(25)	(25)	(25)	(25)	(126)	(559)
Other Operating Expenses	(10)	(10)	(9)	(6)	(6)	(42)	(251)
ROW payments	(6)	(7)	(8)	(8)	(8)	(38)	(48)
Integrated Transportation System	-	-	-	-	-	-	-
Litigation Reserve	(3)	(3)	(3)	(1)	(1)	(12)	(52)
Total operating expenses	(56)	(55)	(55)	(50)	(49)	(264)	(1,184)
Total operating balance	(39)	(39)	(38)	(34)	(34)	(184)	(760)
Regular FHWA funds	145	222	249	264	229	1,109	6,276
Regular CW CapEx appropriation	48	48	54	55	56	261	1,991
Non-regular CW CapEx funds ¹	81	-	-	-	-	81	81
Emergency Funds	47	61	67	30	22	227	227
Capital FTA funds	-	-	-	-	-	-	-
Total capital contributions	321	330	370	349	307	1,678	8,575
Capital ROW payments	(3)	(3)	(4)	(3)	(3)	(17)	(120)
Local construction costs	(10)	(10)	(10)	(10)	(10)	(50)	(361)
Highway construction hard costs	(154)	(223)	(249)	(271)	(258)	(1,155)	(6,869)
Highway construction soft costs	(53)	(69)	(60)	(55)	(55)	(292)	(1,599)
Emergency repair costs	(32)	(68)	(74)	(34)	(25)	(234)	(234)
Toll optimization costs	-	-	-	-	-	-	-
Transit construction costs	-	-	-	-	-	-	-
Construction salaries & benefits	(26)	(22)	(22)	(22)	(23)	(115)	(817)
Other construction programs	(1)	(1)	(1)	(1)	(1)	(7)	(49)
Total capital expenses	(279)	(397)	(421)	(397)	(375)	(1,869)	(10,049)
Total capital balance	42	(67)	(50)	(48)	(68)	(192)	(1,474)
Total aggregate balance	2	(105)	(89)	(82)	(103)	(376)	(2,234)
CW Transfer	-	111	75	60	81	327	828
Final aggregate balance	2	6	(14)	(22)	(21)	(49)	(1,406)

Exhibit 30: Transit Assets Baseline Financial Performance

Item, \$M	FY22	FY23	FY24	FY25	FY26	FY22-26	FY22-51
Toll fares	-	-	-	-	-	-	-
Toll fines	-	-	-	-	-	-	-
Other income	1	1	1	1	1	5	20
Transit fares	3	5	7	7	7	29	200
Operating FTA funds	20	20	20	20	20	100	600
Total operating revenues	24	26	28	28	28	134	820
TU Operation & Maintenance	(71)	(71)	(70)	(83)	(74)	(368)	(2,660)
Toll Highways Administration & Maintenance	-	-	-	-	-	-	-
Salaries & Related Benefits	(6)	(5)	(5)	(5)	(5)	(25)	(149)
Pensions	(4)	(4)	(4)	(4)	(4)	(18)	(78)
Other Operating Expenses	(5)	(5)	(4)	(3)	(3)	(19)	(114)
ROW payments	-	-	-	-	-	-	-
Integrated Transportation System	(11)	(9)	(9)	(9)	(9)	(47)	(336)
Litigation Reserve	-	-	-	-	-	-	-
Total operating expenses	(95)	(93)	(91)	(103)	(94)	(477)	(3,337)
Total operating balance	(72)	(67)	(63)	(75)	(66)	(343)	(2,517)
Regular FHWA funds	-	-	-	-	-	-	-
Regular CW CapEx appropriation	-	-	-	-	-	-	-
Non-regular CW CapEx funds ¹	-	-	-	-	-	-	-
Emergency Funds	-	-	-	-	-	-	-
Capital FTA funds	53	39	21	17	43	174	717
Total capital contributions	53	39	21	17	43	174	717
Capital ROW payments	-	-	-	-	-	-	-
Local construction costs	-	-	-	-	-	-	-
Highway construction hard costs	-	-	-	-	-	-	-
Highway construction soft costs	-	-	-	-	-	-	-
Emergency repair costs	-	-	-	-	-	-	-
Toll optimization costs	-	-	-	-	-	-	-
Transit construction costs	(54)	(40)	(21)	(18)	(44)	(176)	(729)
Construction salaries & benefits	-	-	-	-	-	-	-
Other construction programs	-	-	-	-	-	-	-
Total capital expenses	(54)	(40)	(21)	(18)	(44)	(176)	(729)
Total capital balance	(0)	(0)	(0)	(0)	(0)	(2)	(12)
Total aggregate balance	(72)	(68)	(64)	(76)	(66)	(345)	(2,529)
CW Transfer	72	68	64	76	66	345	2,529
Final aggregate balance	-	-	-	-	-	-	-

CHAPTER 8: REVENUE BASELINE

8.1 Operating revenue baseline

HTA has five core sources of operating revenues: (1) toll fares; (2) toll fines; (3) FTA funds; (4) transit fares; and (5) other income. The projected revenues in the Baseline Scenario⁵⁹ from each source over the period of the 2022 HTA Fiscal Plan is seen in Exhibit 31.

Exhibit 31: Operating revenues by source, FY22-51

Revenue Source, \$M	FY22	FY23	FY24	FY25	FY26	FY 22-26	FY 22-51
Toll fares	141	141	138	136	136	691	4,035
Toll fines	23	22	22	22	22	110	616
Transit fares	3	5	7	7	7	29	200
Operating FTA funds	20	20	20	20	20	100	600
Other income	10	10	10	9	7	45	204
Total baseline operating revenues	196	197	197	195	191	975	5,655

1. Toll revenue baseline: Toll revenues contribute 72% of HTA's total operating revenue baseline, including both HTA and concessionaire-operated roads. Toll fares for the following four HTA-operated toll roads have remained flat for 16 years with no adjustment since 2005: PR-20, PR-52, PR-53 and PR-66. Future toll revenues were estimated using actual toll revenues and toll transactions from FY19 (pre-pandemic) and then adjusted each year based on the Commonwealth's real GNP projections. Additionally, the 2022 HTA Fiscal Plan Plan's projections adjusted upward PR-53's baseline to reflect the fact that both Humacao toll plazas (North and South) were closed during FY19 (used as a base year, unaffected by COVID), but reopened in August 2019.

Baseline toll revenues incorporate the effect of changes in the distribution of revenues in roads that are managed and operated by concessionaires (e.g., Metropistas and Teodoro Moscoso Bridge). Toll estimates for roads operated by concessionaires include scheduled annual increases of 1.5% plus annual inflation for the following toll roads: PR-5, PR-17 (bridge portion), PR-22 and PR-199 (bridge portion).⁶⁰ Additionally, the toll revenue forecast considers net collection risk factors, which adjust gross revenue to HTA by uncollected amounts of Metropistas, Guaynabo and Teodoro Moscoso and increase net revenue by off-period v-tolls⁶¹

⁵⁹ Baseline scenario assumes that HTA will implement no fiscal measures over the period of this Fiscal Plan.

⁶⁰ HTA has a contract with Guaynabo City to collect the toll revenues of the municipal toll road through the Autoexpreso operator for a fee.

⁶¹ Refers to video tolls that are additional fees incurred by drivers that pass-through ORT gantries without an account or with a faulty transponder.

collected. The toll revenue baseline does not include measures to increase toll rates for HTA-operated roads; the impact of toll rate increases is shown separately in Chapter 11.1. Toll revenues from PR-20, PR-52, PR-53 and PR-66 are exclusively allocated to HTA's toll assets, while revenues and obligations from PR-5, PR-17, PR-22 and Dynamic Toll Lanes ("DTL") are exclusively allocated to the non-toll road assets.

2. Toll fine baseline: Fines imposed on drivers who pass through toll plazas without paying represent 12% of the Authority's operating revenue baseline in FY22, approximately \$23 million for FY22.⁶² Toll fine revenue is based on toll operation-related violations, where the fiscal plan assumes a 1% violation rate, based on historical actuals, and a \$15 flat fine as revised by Act 220 of 2018. Toll fine forgiveness legislation passed in September 2018 had delayed Electronic Toll Fine collections for the past two fiscal years. HTA resumed toll fine collection in July 2021 and has collected significant amounts of revenue in the first half of the fiscal year (\$20.5 million through the end of December 2021).

Electronic Toll Fine Collection ("ETFC") is assumed to have an 18-month collection cycle with 60% compliance in the baseline. Actual toll violation transactional data from FY21 and Puerto Rico real GNP assumptions are used to project future toll violation transactions and toll fine revenue. Projections are slightly lower compared to the 2021 Certified Fiscal Plan, given that HTA did not resume fine collection in FY21 and the baseline now accounts for actual growth from COVID-19. The baseline projects that HTA will generate \$110 million over the next five years and \$616 million over the entire period of this Fiscal Plan.⁶³ 41% of toll fine revenues are assigned to the toll assets based on transactions and violations associated with PR-20, PR-52, PR-53 and PR-66, while 59% are allocated to the non-toll road assets given associated assumption for PR-5, PR-17, PR-22 and DTL.

3. Operating funds from FTA: Through FY27, HTA will continue to receive approximately \$20 million annually in operating funds from FTA for regular preventive maintenance activities for TU. Following FY27, the Fiscal Plan assumes the amount will remain stable. Operating FTA funds are assigned exclusively to the transit assets.

4. Transit fares: Revenues include TU and Metrobus operating income. Operating revenues are projected to grow in line with the Puerto Rico real GNP projections included within the Commonwealth 2021 Certified Fiscal Plan. When combined with inflation-based increases across most transit operation costs (e.g., labor, electricity, insurance), declining revenues yield \$29 million in transit fares for FY22 to FY26 and approximately \$200 million through FY51. Transit Revenues are assigned exclusively to the transit assets.

5. Other revenue baseline: HTA collects ~4% of its total operating revenue baseline from rent and lease receipts, import levy tax fees, toll tags sales, earned interest and other non-toll and transit-based revenue.⁶⁴ For instance, the Authority earns per year on average: (a) approximately \$1.5 million from services related to its highway operations, such as electronic toll device sales and truck weighing; (b) approximately \$2.7 million from property sales (only until FY25); (c) approximately \$0.8 million from interest accrued on its bank accounts; (d) approximately \$0.2 million from property rentals; and (e) approximately \$0.6 million from activities related to TU operations (e.g., TU station space rentals, vending machines). For the

⁶² Ibid.

⁶³ Assumes 1% of toll transactions would become fines and that 60% of all fines would be collected, in line with HTA's historical performance.

⁶⁴ Based on projected FY22 data.

revenue baseline, rent-related revenues are expected to move in line with inflation through FY51, while other types of income are projected to remain flat. Other revenues are assigned 42% to the toll assets, 48% to the non-toll assets and 10% to the transit assets.

8.2 Capital contribution baseline

HTA mainly derives capital contributions from two sources: (1) regular FHWA funds and (2) regular Commonwealth CapEx appropriation.⁶⁵ HTA also expects to receive ad hoc funding until at least FY26 from three additional sources: (3) Non-regular Commonwealth Capital Expenditure funds (e.g., rollover funds from prior years / special appropriations such as the one previously granted for Abriendo Caminos); (4) Federal Emergency Funds; and (5) Non-regular Capital FTA funds. The projected revenues from each source over the period of this Fiscal Plan are illustrated in Exhibit 32 below.

Exhibit 32: Capital Contributions by Source, FY22-51

Revenue Source, \$M	FY22	FY23	FY24	FY25	FY26	FY 22-26	FY 22-51
Regular FHWA funds	149	269	249	264	229	1,160	6,327
Regular CW CapEx appropriation	53	54	54	55	56	272	2,002
Non-regular CW CapEx funds	90	-	-	-	-	90	90
Emergency funds	53	71	67	30	22	244	244
Non-regular Capital FTA funds	53	39	21	17	43	174	717
Total baseline capital contributions	398	433	391	366	350	1,939	9,380

1. Regular FHWA Funds: HTA's regular allocation of FHWA funds for highway construction projects is approximately \$139 million per year over FY22-26 (after accounting for the penalty faced by Puerto Rico for its drinking age), as provided in the FAST act. This amount will be further increased thanks to BIL, which was signed into law on November 15, 2021.⁶⁶ Moreover, from FY22 to FY26, FHWA funds will exceed the regular allocation, reaching an annual average of \$232 million, because the Authority plans to continue delivering on a backlog of projects that have been rolled over from previous years. The Fiscal Plan assumes that the regular allocation will resume in FY27 and grow in line with inflation thereafter. FHWA Funds are exclusively allocated to the non-toll road assets after FY23.

⁶⁵ Note: The CW CapEx appropriation is distinct from the CW Operating Transfer, which is discussed further in Chapter 15.

⁶⁶ HTA's actual allocation is approximately \$158 million, but \$19 million is deducted annually in penalties because the drinking age is below 21. <https://www.fhwa.dot.gov/fastact/factsheets/territorialprhighwaysfs.cfm>

2. Federal Emergency Funds: Revenues related to Federal emergency programs are set at an amount equal to the expenses they are projected to fund.⁶⁷ HTA has been allocated approximately \$210 million from FHWA, \$16M million from FEMA and \$17M from FTA via the CARES Act for construction projects to repair the damages caused in the island's highway network by Hurricane Maria in 2017 and by earthquakes in 2020. 7% of federal emergency funds are allocated to the toll road entity, while 93% are allocated to the non-toll road assets.

3. Regular Commonwealth CapEx Appropriation: Commonwealth CapEx Appropriations are transferred to HTA each year to enable sufficient funding for HTA's CIP. In FY22, the appropriation is approximately \$54 million and projected to grow with inflation through FY51, for an average of \$67 million per year for FY22-51. Main Commonwealth CapEx Appropriation are exclusively allocated to the non-toll road assets after FY23.

4. Other / non-regular Commonwealth CapEx Funds: HTA expects to deploy "rollover" funds of \$90 million across FY22 and FY23. These rollover funds reflect obligations from previous budgets for projects with signed contracts for which funds have been obligated but not yet disbursed. Relative to the 2021 HTA Fiscal Plan, the 2022 HTA Fiscal Plan has removed an allocation of \$87 million for the Abriendo Caminos Phase IV, because that program is managed by DTOP (from Phase IV onward). Other Commonwealth State Funds are assigned 10% to the toll assets, 90% to the non-toll assets and 0% to the transit assets.

5. Non-regular Capital FTA Funds: From FY22-FY26, HTA is projected to receive approximately \$174 million of capital funds to execute a series of capital improvements to TU. Capital improvements include repairing damages caused by Hurricane María, replacing telecommunication systems and installing a new fare collection system. CapEx FTA funds are assigned exclusively to the transit entity.

CHAPTER 9: EXPENSE BASELINE

9.1 Operating expense baseline

HTA's operating expenses are distributed into the following categories: (1) TU Operation and Maintenance; (2) Toll Highways Administration and Maintenance; (3) Salaries and Related Benefits; (4) Pensions; (5) Other Operating Expenses; (6) Opex Right of Way (ROW) payments; (7) Integrated Transportation System (ITS) and (8) Litigation Reserve. The projected annual expenses for each category are shown in Exhibit 33.

⁶⁷ Per the Bipartisan Budget Act of 2018, 115th Cong., 2d Sess. (2018), p. 88; line 8.

Exhibit 33: Operating expenses by category, FY22-51

Expense category, \$M	FY22	FY23	FY24	FY25	FY26	FY 22-26	FY 22-51
Tren Urbano Operation & Maintenance	(71)	(71)	(70)	(83)	(74)	(368)	(2,660)
Toll Highways Administration & Maintenance	(43)	(45)	(45)	(46)	(46)	(226)	(1,527)
Salaries & Related Benefits	(23)	(20)	(19)	(18)	(18)	(98)	(572)
Pensions	(36)	(36)	(36)	(36)	(35)	(178)	(790)
Other Operating Expenses	(33)	(32)	(29)	(20)	(20)	(135)	(812)
ROW payments	(8)	(8)	(10)	(10)	(10)	(46)	(58)
Integrated Transportation System	(11)	(9)	(9)	(9)	(9)	(47)	(336)
Litigation Reserve	(4)	(4)	(4)	(2)	(2)	(15)	(63)
Total baseline operating expenses	(228)	(226)	(222)	(224)	(214)	(1,113)	(6,818)

1. TU Operation and Maintenance: TU Operation and Maintenance, \$71 million in FY22, is projected to account for 27% of total operating expenses in FY22. TU's operating contract represents 68% of this category for FY22, amounting to approximately \$49 million. These estimates are consistent with FY21 projections. This operating contract primarily covers operation of trains, maintenance of track and facilities, fare collection and electronic system management. The other largest line items within this expense category are utilities (approximately \$8.5 million) and insurance contracts (approximately \$9.1 million), above peer benchmarks for similar expenses.⁶⁸ After FY22, projections are based on per-year estimates consisting of contracted TU base compensation and Puerto Rico's expected inflation. There is a small, irregular increase in FY25, mainly due to a one-off vehicle overhaul program. After FY32, when the current contract with TU's private operator expires, main contract costs are assumed to increase in line with inflation. TU costs are assigned exclusively to the transit assets.

2. Toll Highways Administration and Maintenance: Electronic Toll Collection (ETC) costs, which consist of commissions paid to the toll operator, make up the plurality (44% in FY22) of total toll highways administration and maintenance costs, which are \$43 million total for FY22. ETC costs are estimated to be 14.6% of baseline toll fares (based on FY21 actuals). Starting in FY23, all other costs within this expense category⁶⁹ are expected to grow in line with Puerto Rico's expected inflation rate, while ETC costs are projected as a constant percentage of

⁶⁸ While peers spend, on average, 2.7% of operating expenses on insurance, HTA spends 12.3%; similarly, peers spend 5.5% of operating expenses on utilities, while HTA spends 11.6%. Based on National Transportation Database 2019 operating expense information, compared to same peers as mentioned above.

⁶⁹ Includes reparation and maintenance of highway, electricity, insurance, security services, reparation and maintenance of vehicles, maintenance and conservation of equipment, reparation and maintenance of buildings, equipment rentals, rent of buildings, miscellaneous equipment, cellphone and telephone service, travel expenses, computer hardware and software, merchant fees and an "all other" category.

baseline toll fares collections (i.e., to reflect a per-transaction cost) each year. 98% of Toll Highways Administration and Maintenance costs are allocated to the toll road assets, while 2% are allocated to the non-toll road assets.

3. Salaries and Related Benefits: From FY22-26, operating salaries and related benefits are expected to be an average of approximately \$19 million per year. Salaries and related benefits are assumed to remain flat until FY25, after which they are forecast to grow at Puerto Rico's expected inflation rate. Other benefits such as overtime, pension, Social Security and Medicare are calculated as a proportion of the base salary. Early retirement costs reach zero by FY37 given that those who retired early will stop receiving payments at this point.⁷⁰ For FY22, health insurance and early retirement costs are the highest cost categories within this operating expenditure line item, behind regular salary amounts. 31% of non-construction salaries are allocated to the toll road assets, 46% to the non-toll road assets and 26% to the transit assets.

4. Pensions (PayGo costs): Pension costs are calculated based on assumptions about the duration of expected retirement payments to current and past HTA employees. Pension costs are projected to slightly decrease over time, with an average annual cost of \$26 million from FY22-51. 19% of pension costs are allocated to the toll road assets, 71% to the non-toll road assets and 10% to the transit assets.

5. Other Operating Expenses: Within this category, service costs make up 60% and are expected to be higher in the next two years due to the costs associated with toll optimization and Title III-related expenses. The remainder of the expenses in this category include utilities, IT costs and administrative costs.⁷¹ Costs within this expense category are expected to begin leveling off from FY25 onwards as service costs taper off and stabilize. These expenses are generally expected to grow with inflation, reaching \$36 million by FY51. 55% of other operating expenses are allocated to the toll road assets, 31% to the non-toll road assets and 14% to the transit assets.

6. Operational Right of Way (ROW) Payments: Operational ROW Payments correspond to claims that have already been submitted to HTA and corresponding ongoing payments. Opex ROW payments are expected to amount to approximately \$12 million in FY22. This amount may fluctuate on an annual basis, so current projections are based on HTA's case-by-case estimates. From FY23 onwards, the average ROW payments will depend on the outcomes and treatment of claims in HTA's Title III case, between \$10.3 million and \$8.3 million over the next three years, decreasing to approximately \$2.8 million in FY29.⁷² Operational ROW payments are not currently planned beyond FY29. 18% of operating ROW costs are allocated to the toll road assets, while 82% are allocated to the non-toll road assets.

7. Integrated Transportation System (ITS): The ITS is a feeder bus system flowing into TU, operated by a third-party provider. The ITS total projected cost for FY22 is approximately \$10 million and these costs are expected to average \$9 million per year from FY22-26. These expenses include bus service expenses, a monthly fixed management fee, farebox expenses

⁷⁰ Costs related to early retirement do not increase with inflation.

⁷¹ Includes rent for buildings, electricity, security services, insurance, telephone and cellphone service, reparation and maintenance of vehicles, water, rental of equipment, maintenance and conservation of equipment, subscriptions, computer software, reparation and maintenance of buildings, postal services, cultural activities, travel costs, training, printing and materials and any other category.

⁷² These ROW payments are included in operating expenditures because they correspond to previous claims that must be paid out whereas ROW payments that are included in capital expenditures correspond to potential future claims related to construction.

and other special service fees. In FY22, as in FY21, HTA activated a contractual service increase of 13% for a new support line, which leads to higher “other” costs. Bus service expenses are calculated using assumptions based on mile and hourly costs for MetroBus, Metro Urbano and TU Conexión, reflecting the structure of the contract with the third-party provider. This is driven by forecasted volume of miles traveled by buses within ITS and the operational hours of the system’s buses. Costs are projected to increase with Puerto Rico’s inflation over the forecast period, while the total hours and miles traveled per year of these buses remains flat. All ITS costs are allocated to the transit assets.

8. Litigation Reserve: Litigation reserve projections are based on historical litigation expenses, with FY22 expected reserve to be \$4 million, a decrease from \$8.5 million in FY21 given the reallocation of the remaining litigation reserve budget. This amount is expected to remain constant from FY22-24 given anticipated COVID-19 related lawsuits and claims from contractors. HTA is working closely with FHWA to determine the impact of these claims, including extended overhead and extra costs for changed conditions. In FY25 onwards, the litigation reserve amount will decrease to \$1.5 million and is expected to grow slightly with inflation for the duration of the Fiscal Plan period. This view is influenced by the minimal historic actual disbursements in this category over the past three years. 18% of litigation reserve deposits are allocated to the toll assets, while 82% are allocated to the non-toll assets.

9.2 Capital expense baseline

The operating expenses of HTA are distributed into the following seven categories: (1) Highway Construction Hard Costs; (2) Highway Construction Soft Costs; (3) Emergency Repair Costs; (4) Transit CIP; (5) Local Construction Costs; (6) Right of Way (ROW) payments; and (7) Other Capital Expenses. The projected annual expenses for each category, shown in five-year increments over the Fiscal Plan period, are shown below.

Exhibit 34: Capital expenses by category, FY22-51

Expense category	FY22	FY23	FY24	FY25	FY26	FY 22-26	FY 22-51
Highway Construction Hard Costs	(163)	(281)	(282)	(313)	(306)	(1,345)	(8,296)
Highway Construction Soft Costs	(55)	(72)	(61)	(62)	(62)	(312)	(1,902)
Emergency Repair Costs	(36)	(81)	(76)	(35)	(26)	(254)	(254)
Transit CIP	(54)	(40)	(21)	(18)	(44)	(176)	(729)
Toll Optimization CIP	-	-	-	-	-	-	-
Local Construction Costs	(10)	(10)	(10)	(10)	(10)	(50)	(361)
ROW payments	(3)	(4)	(4)	(4)	(4)	(20)	(145)
Other Program Expenses	(2)	(2)	(2)	(2)	(2)	(8)	(59)
Construction salaries and related benefits	(29)	(25)	(25)	(25)	(26)	(130)	(928)
Total baseline capital expenses	(352)	(514)	(482)	(468)	(479)	(2,295)	(12,675)

1. Highway Construction Hard Costs: Hard costs in the fiscal model reflect a maximization of capital expenditures to arrive as close as possible to the Scenario 1 of the third-party report

commissioned by HTA⁷³, subject to HTA's fiscal constraints (i.e., achieving investments as close to the SOGR targets in the third-party report, using all identified capital inflows). These costs will also grow in line with Puerto Rico's projected inflation (see Exhibit 21 for further detail).⁷⁴ From FY22 to FY26, FHWA funds account for 78% of hard costs (versus 22% for state funds). Roughly 18% of all hard costs is allocated to the toll road assets, while 82% is allocated to the non-toll road assets, based on SOGR investment requirements for the respective asset classes.

2. Highway Construction Soft Costs: Soft costs for capital expenses refer to pre-construction project-linked costs (e.g., design, environmental studies) as well as FHWA non-project linked planning and compliance costs (e.g., state planning and research). Total soft costs for FY22-26 are expected to be \$312 million. Planning and compliance costs are taken from HTA's CIP from FY22-26 and then grown at inflation thereafter. Project-linked soft costs are taken from HTA's CIP in FY22-23 and for FY24 onwards are calculated as 15.6% of project-based hard costs. This ratio is in line with both HTA's historical soft cost needs as well as best practices from other US jurisdictions.⁷⁵ 18% of all soft costs is allocated to the toll road assets, while 82% is allocated to the non-toll road assets.

3. Emergency Repair: Emergency repair funds, projected from FY22 to FY26, are provided by federal emergency funding. Federal emergency cost spending makes up the majority of emergency repair spending, totaling ~\$227 million from FY22-FY26. Local emergency costs (funded by non-federal capital revenues) are expected to amount to ~\$28 million in the same period. Emergency repair funding is short-term and expected to conclude in FY26. 7% of federally funded Emergency Repair costs are allocated to the toll road assets, while all other Emergency Repair costs (federal & local) are allocated to the non-toll road assets.

4. Transit CIP: Transit CIP refers to investments that aim to improve TU. These investments include completing short term enhancements, including emergency relief projects, installing new telecommunications systems, repairing rolling surfaces, upgrading automated fare collection and repairing Point-of-Sale systems. Transit CIP expenses are projected to be \$54 million in FY22. From FY22-FY26, these expenses are based off a list of Transit CIP projects, of which funding has been approved by FTA. After FY26, Transit CIP costs grow at \$17.5 million with inflation. Transit CIP costs are all allocated to the transit assets.

5. Capital ROW Payments:⁷⁶ Capital ROW payments are expected to be approximately \$4 million per year FY22-26. From FY27 onwards, Capital ROW payments grow with inflation. 18% of all capital ROW payments are allocated to the toll assets, while 82% are allocated to the non-toll assets.

⁷³ Analysis of Investment Needs for PRHTA Tolle and Non-Tolle Highways (2021)

⁷⁴ PRHTA 2018-2028 Capital Improvement Program Validation Report, p. 63. Estimates are in 2018 \$USD. Estimates for FY26 to FY28 subtract project level investments in preceding 8 years to determine the remaining investment required to achieve SOGR based on the PRHTA 2018-2028 Capital Improvement Program Validation Report.

⁷⁵ 2017 Reason Institute Road Benchmark Data, Found online at: <https://reason.org/policy-study/24th-annual-highway-report/24th-annual-highway-report-executive-summary/>.

⁷⁶ ROW payments within capital expenditures category refers to potential future claims related to construction, whereas those included in the operational expenditures category are past claims that must be paid out. Division reflects HTA accounting practices.

6. Other Program Expenses: This category consists of additional expenses related to construction support.⁷⁷ Equipment rental is the largest item within this category, primarily for car leases to support transportation within construction sites. These expenses are generally expected to grow with inflation reaching \$2.5 million by FY51. 18% of all other program expenses are allocated to the toll assets, while 82% are allocated to the non-toll assets.

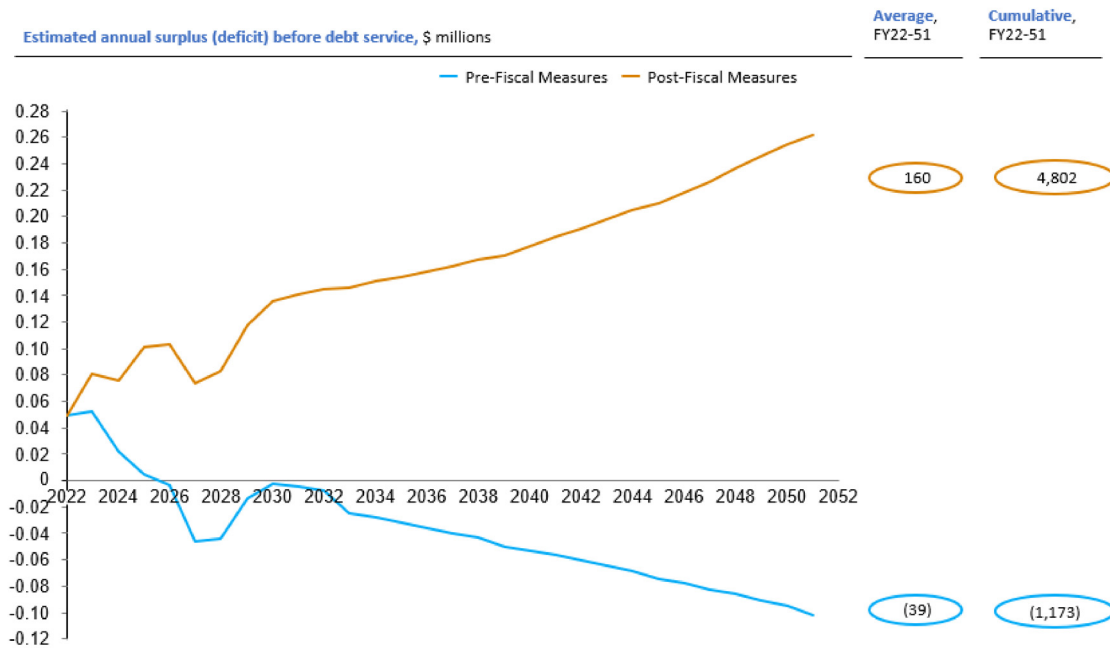
7. Local construction costs: Local construction expenditures average \$12 million for the Fiscal Plan period (grown with inflation from a base of \$10 million per year in FY22-26). Local Construction costs are exclusively allocated to the non-toll assets.

⁷⁷ Including Professional Services, Rent of Buildings, Electricity, Surveillance and Monitoring, Other Costs, Insurance, Telephone Services, Repair and Maintenance of Vehicles, Water, Equipment Rental, Maintenance and Conservation of Equipment, Subscriptions and Bills, Printed Materials, Computer-related Expenses, Repair and Maintenance of Buildings, Training, Trips, Postal Services and Cultural Activities.

PART VI – PROJECTIONS WITH FISCAL MEASURES

The Fiscal Measures described in the following chapters are critical to HTA's long-term financial sustainability. If promptly and fully implemented, they have the potential to generate \$6.0 billion in impact from FY22-51, taking HTA's ~\$1.2 billion baseline deficit to a \$4.8 billion post-measures surplus, as shown by Exhibit 35 below. Chapters 10 through 13 provide additional details on the fiscal measures outlined in Exhibit 37.

Exhibit 35: Impact of Fiscal Measures on HTA projected surplus (deficit), FY22-51



HTA's baseline financial projections and expected deficits from FY22 onwards demonstrate the need for the Authority to optimize expenses, generate revenues and support the transportation network of Puerto Rico through the implementation of fiscal measures. Although previous Certified Fiscal Plans outlined requirements to implement most of these measures, limited progress has been achieved to date (see Exhibit 36).

Revenue enhancements are expected to drive most of the fiscal benefit, generating approximately \$5.3 billion through FY51. Cost savings would contribute approximately \$0.7 billion. Enhancing toll fares and fines through price increases and performance improvement accounts for \$4.7 billion of the \$6.0 billion (approximately 78% of the total fiscal benefit). The impact of each measure over time is provided in Exhibit 37.

Exhibit 36: Implementation status of Fiscal Measures during FY21

			Fiscal impact ¹ , \$M	
			FY21 Target	FY21 Actuals
● Performed worse ● Performed better ● Fiscal Impact not expected in FY21				
Fiscal measure		Description		
Enhance org	1	Recruit a new Board of Directors	-	-
	2	Adopt organizational KPIs	-	-
Increase revenue	3	Fare increases	7.6	-
	4	Fine increases	7.4	-
	5	Collect discretionary funds	-0.1	-
	5	Expand transit revenue	-	-
	6	Optimize toll collection	10.0	-
	7	Implement bi-directional tolling	N/A	N/A
	8	Improve ancillary revenue	0.2	-
Optimize CapEx	9	Optimize capital expenses	15.4	-
Optimize OpEx	10	Reduce healthcare cost	1.1	-
	11	TU cost reduction	N/A	N/A
	12	Manage congestion	2.6	-
Other	13	Explore concessions & implement reforms	-	-
Total			44.3	-

Fiscal measure	Description	FY22-51 Fiscal impact, \$M
Enhance org	1 New Board composition	-18
	2 Org. KPIs	0
Increase revenue	3 Fare increases	3,157
	4 Fine increases	521
	5 Discretionary grants	-11
	6 Transit enhancements	283
	7 Toll optimization	905
	8 Bi-directional tolling	119
	9 Ancillary revenues	163
Optimize CapEx	10 CIP optimizations	209
Optimize OpEx	11 Health benefits revision	132
	12 TU cost reduction	360
	13 Congestion management	167
	14 Transportation reform	-10
Other	Total	5,976

HTA's cumulative \$4.8 billion surplus would be entirely driven by the revenues of its toll assets. Non-toll assets would maintain balanced budgets across the Fiscal Plan period but would not generate any surplus.

Exhibit 38: Post-measure Combined HTA Financial Performance

Item, \$M	FY22	FY23	FY24	FY25	FY26	FY22-26	FY22-51
Toll fares	154	176	189	193	198	909	8,196
Toll fines	36	43	43	44	44	210	1,480
Other income	10	10	11	11	9	51	367
Transit fares	5	7	10	12	14	48	482
Operating FTA funds	20	20	20	20	20	100	600
Total operating revenues	225	257	272	280	285	1,319	11,125
TU Operation & Maintenance	(71)	(70)	(67)	(80)	(71)	(360)	(2,354)
Toll Highways Administration & Maintenance	(46)	(47)	(45)	(44)	(45)	(227)	(1,496)
Salaries & Related Benefits	(23)	(19)	(18)	(17)	(17)	(94)	(527)
Pensions	(36)	(36)	(36)	(36)	(35)	(178)	(790)
Other Operating Expenses	(43)	(34)	(30)	(21)	(21)	(149)	(862)
ROW payments	(8)	(8)	(10)	(10)	(10)	(46)	(58)
Integrated Transportation System	(12)	(10)	(10)	(10)	(10)	(52)	(373)
Litigation Reserve	(4)	(4)	(4)	(2)	(2)	(15)	(63)
Total operating expenses	(242)	(228)	(219)	(220)	(210)	(1,121)	(6,522)
Total operating balance	(17)	29	53	59	75	198	4,603
Regular FHWA funds	149	269	249	264	229	1,160	6,327
Regular CW CapEx appropriation	53	54	54	55	56	272	2,002
Non-regular CW CapEx funds ¹	90	-	-	-	-	90	90
Emergency Funds	53	71	67	30	22	244	244
Capital FTA funds	53	39	21	17	43	174	717
Total capital contributions	398	433	391	366	350	1,939	9,380
Capital ROW payments	(3)	(4)	(4)	(4)	(4)	(20)	(145)
Local construction costs	(10)	(10)	(10)	(10)	(10)	(48)	(343)
Highway construction hard costs	(163)	(279)	(280)	(309)	(301)	(1,332)	(8,165)
Highway construction soft costs	(55)	(70)	(59)	(60)	(60)	(304)	(1,844)
Emergency repair costs	(36)	(81)	(76)	(35)	(26)	(254)	(254)
Toll optimization costs	(20)	(35)	(31)	-	-	(85)	(85)
Transit construction costs	(54)	(40)	(21)	(18)	(44)	(176)	(729)
Construction salaries & benefits	(29)	(24)	(23)	(23)	(23)	(123)	(841)
Other construction programs	(2)	(2)	(2)	(2)	(2)	(8)	(59)
Total capital expenses	(371)	(543)	(506)	(460)	(469)	(2,349)	(12,465)
Total capital balance	27	(110)	(115)	(93)	(119)	(410)	(3,086)
Total aggregate balance	10	(81)	(62)	(34)	(44)	(212)	1,517
CW Transfer	-	179	138	136	148	600	3,284
Final aggregate balance	10	98	76	102	104	389	4,802

Exhibit 39: Post-measure Toll Roads Management Office Financial Performance

Item, \$M	FY22	FY23	FY24	FY25	FY26	FY22-26	FY22-51
Toll fares	159	182	194	199	204	938	8,253
Toll fines	15	17	17	18	18	85	601
Other income	4	4	5	5	4	22	154
Transit fares	-	-	-	-	-	-	-
Operating FTA funds	-	-	-	-	-	-	-
Total operating revenues	178	204	216	221	226	1,045	9,007
TU Operation & Maintenance	-	-	-	-	-	-	-
Toll Highways Administration & Maintenance	(45)	(46)	(44)	(44)	(44)	(223)	(1,469)
Salaries & Related Benefits	(7)	(6)	(6)	(5)	(5)	(29)	(163)
Pensions	(7)	(7)	(7)	(7)	(7)	(34)	(153)
Other Operating Expenses	(24)	(19)	(16)	(12)	(12)	(82)	(474)
ROW payments	(1)	(1)	(2)	(2)	(2)	(8)	(11)
Integrated Transportation System	-	-	-	-	-	-	-
Litigation Reserve	(1)	(1)	(1)	(0)	(0)	(3)	(11)
Total operating expenses	(85)	(80)	(75)	(69)	(70)	(379)	(2,281)
Total operating balance	93	124	141	152	156	665	6,726
Regular FHWA funds	4	47	-	-	-	51	51
Regular CW CapEx appropriation	5	6	-	-	-	11	11
Non-regular CW CapEx funds¹	9	-	-	-	-	9	9
Emergency Funds	6	11	0	-	-	17	17
Capital FTA funds	-	-	-	-	-	-	-
Total capital contributions	24	64	0	-	-	88	88
Capital ROW payments	(0)	(1)	(0)	(1)	(1)	(2)	(24)
Local construction costs	-	-	-	-	-	-	-
Highway construction hard costs	(8)	(58)	(33)	(41)	(47)	(188)	(1,404)
Highway construction soft costs	(2)	(2)	(1)	(7)	(7)	(20)	(294)
Emergency repair costs	(4)	(13)	(2)	(1)	(1)	(21)	(21)
Toll optimization costs	(20)	(35)	(31)	-	-	(85)	(85)
Transit construction costs	-	-	-	-	-	-	-
Construction salaries & benefits	(3)	(3)	(3)	(3)	(3)	(15)	(101)
Other construction programs	(0)	(0)	(0)	(0)	(0)	(1)	(11)
Total capital expenses	(39)	(112)	(71)	(52)	(58)	(332)	(1,940)
Total capital balance	(15)	(48)	(71)	(52)	(58)	(244)	(1,852)
Total aggregate balance	78	76	70	100	98	422	4,875
CW Transfer	(73)	-	-	-	-	(73)	(73)
Final aggregate balance	5	76	70	100	98	349	4,802

Exhibit 40: Post-measures Non-Toll Roads Assets Financial performance

Item, \$M	FY22	FY23	FY24	FY25	FY26	FY22-26	FY22-51
Toll fares	(5)	(5)	(6)	(6)	(6)	(29)	(57)
Toll fines	22	26	25	26	26	125	880
Other income	5	5	5	5	4	25	176
Transit fares	-	-	-	-	-	-	-
Operating FTA funds	-	-	-	-	-	-	-
Total operating revenues	21	25	25	25	24	121	999
TU Operation & Maintenance	-	-	-	-	-	-	-
Toll Highways Administration & Maintenance	(1)	(1)	(1)	(1)	(1)	(4)	(27)
Salaries & Related Benefits	(10)	(8)	(8)	(7)	(7)	(40)	(226)
Pensions	(25)	(25)	(25)	(25)	(25)	(126)	(558)
Other Operating Expenses	(13)	(10)	(9)	(6)	(7)	(46)	(267)
ROW payments	(6)	(7)	(8)	(8)	(8)	(38)	(48)
Integrated Transportation System	-	-	-	-	-	-	-
Litigation Reserve	(3)	(3)	(3)	(1)	(1)	(12)	(52)
Total operating expenses	(59)	(55)	(54)	(49)	(49)	(267)	(1,178)
Total operating balance	(38)	(30)	(30)	(24)	(24)	(146)	(179)
Regular FHWA funds	145	222	249	264	229	1,109	6,276
Regular CW CapEx appropriation	48	48	54	55	56	261	1,991
Non-regular CW CapEx funds ¹	81	-	-	-	-	81	81
Emergency Funds	47	61	67	30	22	227	227
Capital FTA funds	-	-	-	-	-	-	-
Total capital contributions	321	330	370	349	307	1,678	8,575
Capital ROW payments	(3)	(3)	(4)	(3)	(3)	(17)	(120)
Local construction costs	(10)	(10)	(10)	(10)	(10)	(48)	(343)
Highway construction hard costs	(154)	(221)	(246)	(268)	(254)	(1,144)	(6,760)
Highway construction soft costs	(53)	(67)	(58)	(53)	(53)	(285)	(1,550)
Emergency repair costs	(32)	(68)	(74)	(34)	(25)	(234)	(234)
Toll optimization costs	-	-	-	-	-	-	-
Transit construction costs	-	-	-	-	-	-	-
Construction salaries & benefits	(26)	(21)	(20)	(20)	(21)	(108)	(740)
Other construction programs	(1)	(1)	(1)	(1)	(1)	(7)	(49)
Total capital expenses	(279)	(392)	(414)	(390)	(367)	(1,842)	(9,797)
Total capital balance	42	(62)	(43)	(41)	(60)	(164)	(1,222)
Total aggregate balance	4	(92)	(73)	(65)	(84)	(310)	(1,401)
CW Transfer	-	113	79	67	90	349	1,401
Final aggregate balance	4	22	6	2	6	40	-

Exhibit 41: Post-measures Transit Assets financial performance

Item, \$M	FY22	FY23	FY24	FY25	FY26	FY22-26	FY22-51
Toll fares	-	-	-	-	-	-	-
Toll fines	-	-	-	-	-	-	-
Other income	1	1	1	1	1	5	37
Transit fares	5	7	10	12	14	48	482
Operating FTA funds	20	20	20	20	20	100	600
Total operating revenues	26	28	31	33	35	153	1,119
TU Operation & Maintenance	(71)	(70)	(67)	(80)	(71)	(360)	(2,354)
Toll Highways Administration & Maintenance	-	-	-	-	-	-	-
Salaries & Related Benefits	(6)	(5)	(5)	(4)	(4)	(24)	(137)
Pensions	(4)	(4)	(4)	(4)	(4)	(18)	(79)
Other Operating Expenses	(6)	(5)	(4)	(3)	(3)	(21)	(121)
ROW payments	-	-	-	-	-	-	-
Integrated Transportation System	(12)	(10)	(10)	(10)	(10)	(52)	(373)
Litigation Reserve	-	-	-	-	-	-	-
Total operating expenses	(98)	(93)	(90)	(102)	(92)	(475)	(3,063)
Total operating balance	(72)	(65)	(59)	(69)	(57)	(322)	(1,944)
Regular FHWA funds	-	-	-	-	-	-	-
Regular CW CapEx appropriation	-	-	-	-	-	-	-
Non-regular CW CapEx funds ¹	-	-	-	-	-	-	-
Emergency Funds	-	-	-	-	-	-	-
Capital FTA funds	53	39	21	17	43	174	717
Total capital contributions	53	39	21	17	43	174	717
Capital ROW payments	-	-	-	-	-	-	-
Local construction costs	-	-	-	-	-	-	-
Highway construction hard costs	-	-	-	-	-	-	-
Highway construction soft costs	-	-	-	-	-	-	-
Emergency repair costs	-	-	-	-	-	-	-
Toll optimization costs	-	-	-	-	-	-	-
Transit construction costs	(54)	(40)	(21)	(18)	(44)	(176)	(729)
Construction salaries & benefits	-	-	-	-	-	-	-
Other construction programs	-	-	-	-	-	-	-
Total capital expenses	(54)	(40)	(21)	(18)	(44)	(176)	(729)
Total capital balance	(0)	(0)	(0)	(0)	(0)	(2)	(12)
Total aggregate balance	(73)	(65)	(59)	(69)	(57)	(324)	(1,956)
CW Transfer	73	65	59	69	57	324	1,956
Final aggregate balance	-	-	-	-	-	-	-

CHAPTER 10: ORGANIZATIONAL ENHANCEMENT FISCAL MEASURES

To become an efficient capital delivery organization, HTA needs to implement the following four fiscal measures:

1. Recruit a New Board of Directors
2. Adopt Capital Delivery KPIs
3. Conduct Personnel Mapping by Asset
4. Improve Organizational Capacity

10.1 Recruiting a new Board of Directors

HTA must establish a Board of Directors to provide regular guidance to HTA executives, improve fiscal and corporate governance of HTA and establish the short-, medium- and long-term operational priorities of the entity in a professional and apolitical manner to ensure its services and necessary capital expenditures are adequately funded. The Board should be composed of seven members: three public servants and four independent, distinguished professionals from the private sector. The public servant positions should be filled by the Secretary of Transportation, the Secretary of Treasury and the Executive Director of AAFAF. The independent private professional positions should be filled by a licensed engineer, a finance professional and two professionals with proven public and private sector experience in infrastructure, planning, economic development and/or public administration.

Board members should (i) be appointed by the Governor, with the advice and consent of the Senate and (ii) be selected from a candidate list developed by a third-party private search firm. Members should possess relevant and successful experience in long-term transportation planning and capital investments. Additionally, membership should be staggered with defined, six-year terms to avoid disruption related to political cycles. Finally, strict guardrails should be put in place to ensure any conflicts of interest are avoided.

Recruiting the independent Board members is projected to cost approximately \$0.1 million in professional search fees during FY22. Retaining the independent Board members from FY23 onwards would require that HTA provide them with compensation similar to benchmark private sector boards or public corporation board members. The Board's total compensation, including all reimbursements for applicable office expenses, would equal approximately \$0.5M per year and increase in line with inflation after FY23. As stipulated in the HTA Enabling Act, members of the Board who are officials of the Government should not receive additional compensation for their services and other members will be entitled to reasonable per diems, as noted above.

Creating and implementing this new board will require enabling legislation, which should be drafted and submitted to the Legislature along with a report that details the reform's benefits. At present, HTA is reviewing proposals to engage a law firm to assist in this matter. The target date for legislative approval is June 30, 2022.

Exhibit 42: Required Implementation Actions for Recruiting a new HTA Board of Directors

Measure	Action item	Responsible party	Deadline
Create new Board of Directors for HTA	Engage law firm to assist in the legislative process	HTA	Completed
	Share with FOMB the draft of Law enabling the appointment of the Board	Commonwealth	March 31, 2022
	Approve Law enabling the appointment of the Board	Commonwealth	June 30, 2022
	Hire executive recruitment firm to identify potential independent Board members	HTA	July 31, 2022
	Approve appointment of independent Board members	Commonwealth	January 1, 2023

10.2 Adopting and measuring KPIs

HTA's performance is measured by its ability to deliver against a set of KPIs based on the best practices of other U.S. transportation authorities and aligned with federal requirements. By tracking HTA's performance on different aspects of capital delivery (e.g., cost and time), HTA executives can identify and eliminate the inefficiencies that currently undermine transportation infrastructure development on the Island. As of FY21, HTA has adopted and begun tracking the KPIs and targets in Exhibit 43 and Exhibit 44. HTA must track progress against KPIs on a monthly basis and include an update in the monthly budget-to-actuals reports shared with FOMB.

In addition to the Capital Delivery and Safety KPIs, HTA must also collect a series of outcome-based metrics to track the impact of the TSR. These metrics must be collected on a periodic basis beginning in FY22 and compiled into a scorecard that will identify leading and lagging indicators of reform.

Exhibit 43: Adopted KPIs - Capital Delivery

Strategic priorities	Metrics ¹	FY20 Actual	FY21 Actual	Target
Preconstruction Program	Delays in NTP (Days from plan – Program Level) Quarterly – Cumulative	6 Days	15.8 Days	<30 Days
	% of Planned NTP Awards (Program Level) Quarterly	100%	43%	>80%
	% of Federal Funds Obligated (Program Level) Annual	N/A	88.6% ¹	>90%
	% Soft vs Hard Costs (Program Level) Annual – Previous Year	N/A	N/A	15%
Construction Delivery	% Change in Cost (Program Level) Quarterly - Cumulative	1%	10.9%	<15%
	% Change in Duration (Program Level) Quarterly - Cumulative	5%	67.0%	<25%
	Disbursement Variance (Program Level) Quarterly - Cumulative	2%	-25%	<20%
Capital Improvement Program	Disbursement Variance (Program Level) Quarterly - Cumulative	N/A	N/A	20%

¹ Applies to regular funds only. Per most recent estimates, 65.9% of emergency relief funds have been obligated.

Exhibit 44: Adopted KPIs - Safety, Asset Quality, & Congestion

Strategic priorities	Metrics	FY20 Actual	FY21 Actual	Target
Safety	# of road fatalities per 100M VMT	1.91	1.89	<1.86
	# of road serious injuries per 100M VMT	24.0	28.6	31.7
Asset quality	% of Interstate Pavement in Good condition ²	10.8%	13.0%	>2%
	% of Interstate Pavement in Poor condition ²	13.2%	14.3%	<5%
	% of Non- Interstate NHS Pavement in Good condition ²	2.2%	4.2%	>2%
	% of Non-Interstate NHA Pavement in Poor condition ²	9.0%	8.0%	<20%
	% of NHS bridges in Good condition ²	20.5%	18.0%	>10%
	% of NHS bridges in Poor condition ²	11.2%	9.0%	<10%
Congestion	\$ of congestion cost per customer	\$1,150	N/A	\$1,045 ¹
	Travel time index	1.31	N/A	1.23 ¹
	Mins for incident response	N/A	0.5	<15 mins

² As defined by FHWA using International Roughness Index (IRI)

Exhibit 45: Proposed KPIs - Transportation Sector Reform Scorecard

Objectives	Impact metrics	Current PR performance	US median performance
Performance & Condition	Road condition: % of interstate pavement in poor condition	12	2
	Transit revenue generation: Non-fare directly-generated funding as % of total	12.3	23.7
	Train system condition: # of failures per 1M revenue mile	373	55
Experience & Efficiency	Driving experience: Hours lost to congestion per person per year	58	54
Sustainability & Resilience	Sustainable commuting options: % sustainable mode share	22%	27%
	Road safety: Road fatalities, # per 100M VMT	2.0	1.1
	Air quality: Days with AQI > 100	19	4

On a project level, HTA executives should also work with division leaders and project administrators to identify more granular KPIs for each specific construction project. These metrics should be communicated to all project stakeholders (e.g., employees and contractors). Following this, division leaders and project administrators should design enforcement mechanisms, such as timelines of project milestones with project owners and penalties for KPI underperformance.

Exhibit 46: Required Implementation Actions for adopting and revising KPIs

Measure	Action item	Responsible party	Deadline
Track impact of reforms	Adopt transportation sector reform KPIs per the Commonwealth's selected scorecard	AAFAF	August 31, 2022
Adopt project specific KPIs	Submit proposed project specific KPIs to FOMB for approval	HTA	Completed
	Approve project specific KPIs (with any necessary revisions) and determine a reporting cadence	FOMB	Completed
Update KPIs	Confirm relevance of existing KPIs and propose any updates that might be necessary	HTA	June 30, 2022

10.3 Organizational Capacity Analysis & Development

Conduct productivity analysis

In anticipation of future asset transfers per the transportation sector reform, described in Chapter 1, it is critical that HTA develop a report illustrating how its current personnel are mapped to assets currently housed within HTA. HTA should develop a map that shows to what extent each role in the organization supports toll roads, non-toll roads and transit assets. For roles split across asset types, HTA should estimate the fraction of that role attributable to each asset type and indicate whether the roles would be transferred to another entity as part of the transportation sector reform.

Furthermore, alongside asset-mapping, HTA must assess the productivity of its personnel. HTA must compile and submit a report to the FOMB that lays out the personnel required to deliver core services for each asset, including implementation of its capital plan. To estimate the impact of asset transfers, a clear understanding of the personnel within each function will allow HTA to assess its current operation and capital delivery for each of these assets, especially once asset transfers may change organization of personnel for each asset. Therefore, in addition to the personnel map, it is critical that HTA create a future-state organizational structure for the Plan duration after certain roles and responsibilities have been transferred to other entities. This organizational structure should highlight the gaps for which post-reform entities would need to hire personnel to fill the role. Overall, this analysis should be tied to a future-state mapping for what the future organization might look like for a toll road management office and a non-toll road management office, per the TSR. To complete these studies, HTA should hire a third-party firm to conduct an analysis of the personnel supporting assets within the Agency.

Exhibit 47: Required implementation actions for classifying HTA's personnel by function

Initiative	Action item	Responsible party	Deadline
Conduct personnel mapping by asset	Create an RFP for procurement of a third-party firm to conduct personnel mapping and productivity reporting study	HTA	August 20, 2021 (Delayed)
	Study begins with selected third-party firm	HTA	November 30, 2021 (Delayed)
	Study concludes and HTA is able to assess the impact of asset transfers based on the mapping of personnel	HTA	June 30, 2022
	HTA provides the assessment to FOMB.	HTA	July 30, 2022

Improve organizational capacity

As part of the MOU with FHWA, HTA must improve its systems, procedures and bylaws to become a more efficient organization and expedite project delivery process. In FY21, HTA launched an RFP with a third-party consultant to study and analyze potential areas for improvement. The resulting report had a series of recommendations that covered the following:

- Billing Process
- Organizational Structure
- Project Development Process
- Standard Documentation
- Laws and Regulations
- Standard Operating Procedures
- Training program

HTA has been in the process of implementing these recommendations. The Authority has issued RFPs to procure improved systems such as email communication, electronic project monitoring system and improvements to the financial billing system to reduce HTA's obligated but unspent balances. HTA has already completed its upgrade of email communications to Microsoft Office 365. Furthermore, HTA is nearing completion of upgrading its financial systems to Oracle e-Business suite and implementing the Oracle Primavera Unifier for project management information systems (PMIS).

HTA must continue implementing these recommendations and provide updates to the FOMB until it is deemed to be fully compliant with the requirements of its FHWA MOU.

At the same time, HTA needs to prepare for the implementation of TSR, as outlined in Chapter 1. HTA should set up an operationally ringfenced Toll Road Management Office, which will include all employees that support construction and administrative functions for toll roads. In parallel, it should work with DTOP to understand how many employees will be transferred over to support non-toll maintenance and identify the divisions that will absorb them. HTA's resulting organizational structure is shown in Exhibit 48.

Exhibit 48: Anticipated Organizational Structure of HTA per Recommendations

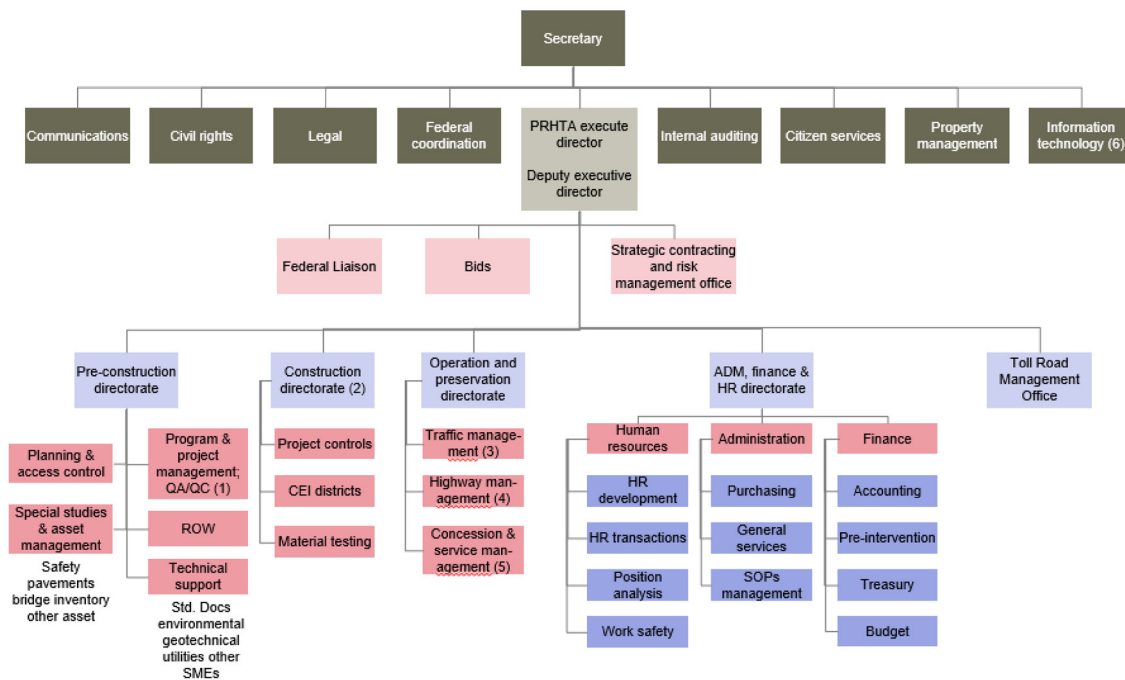


Exhibit 49: Required Implementation Actions for Improving Organizational Capacity

Initiative	Action item	Responsible party	Deadline
Improve organizational capacity	Completion of financial systems transition	HTA	June 30, 2022
	Completion of project management information system update	HTA	June 30, 2022

CHAPTER 11: FISCAL MEASURES: REVENUE INCREASES

Six revenue fiscal measures should be implemented by HTA to generate a forecasted \$5.3 billion over a 30-year period, forecasted to deliver approximately 88% of the total fiscal measure impact:

1. Increasing toll fares and optimizing fare collection: \$3.7 billion (~61%)
2. Implementing bi-directional tolling: \$0.1 billion (~2%)
3. Increasing toll fines, introducing tiered fine system and optimizing fine collection: \$0.9 billion (~15%)
4. Expanding transit revenues: \$0.3 billion (~5%)
5. Improving ancillary revenues: \$0.2 billion (~3%)
6. Adopting congestion management initiatives: \$0.2 billion (~3%)
7. Collecting discretionary funds: zero net fiscal impact given addition investment from the corresponding expenditures that will match funding inflows (0%)⁷⁸

11.1 Increasing toll fares and optimizing fare collection

Toll fare price increases and enhanced collection are critical measures to increasing revenues to ensure fiscal sustainability. During the period of FY22-51, HTA is forecasted to generate \$8.2 billion in cumulative toll fare revenues through implementation of these measures and other revenue enhancements. Two initiatives could raise approximately \$178 million in additional revenue cumulatively by FY26 and approximately \$3.7 billion cumulative by FY51:

- Increasing toll fares on HTA-operated toll roads; and
- Improving and expanding the Open Road Tolling (“ORT”) system to improve efficiency in collecting toll fares⁷⁹

HTA may propose and implement alternate means or approaches for generating toll fare revenue, provided such alternate means or approaches achieve the same level of aggregate revenue per year as those reflected in the Fiscal Plan. Otherwise, HTA must implement the measures outlined herein to ensure full compliance with the Fiscal Plan’s fiscal objectives.

⁷⁸ The net fiscal impact of these funds will be zero, because funds will be spent on discretionary projects beyond the maintenance of transportation assets in a SOGR. Separated out in fiscal measure impact.

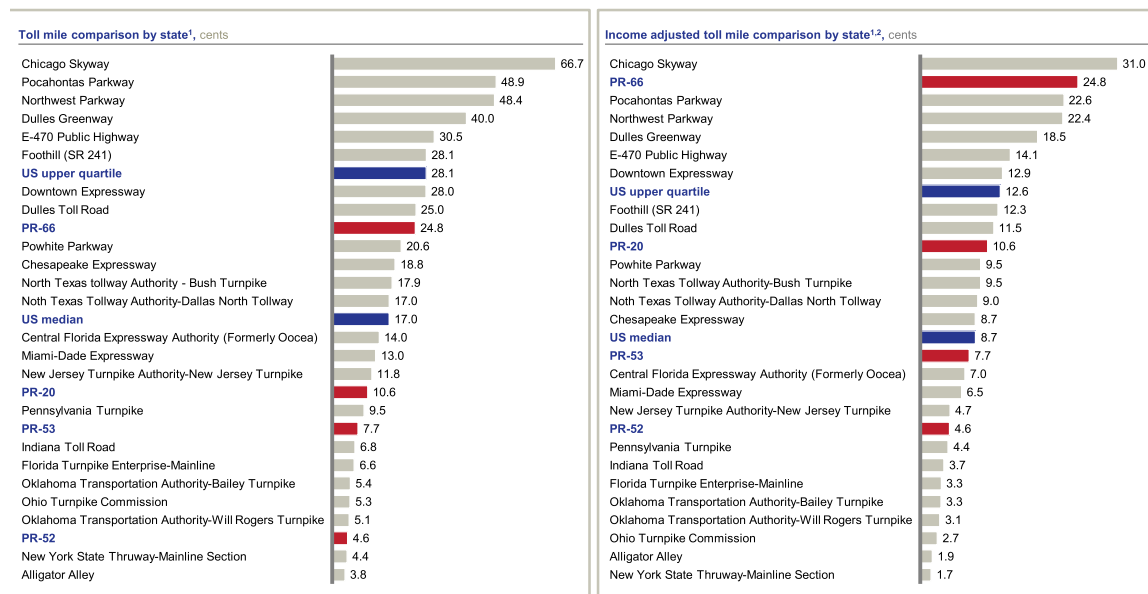
⁷⁹ ORT, also called all-electronic tolling, cashless tolling, or free-flow tolling, is the collection of tolls on toll roads without the use of toll booths. An electronic toll collection system is usually used instead.

Increasing toll fares

Toll fare increases, tied to inflation, are implemented in U.S. states and on the Puerto Rico toll roads that are managed and operated by concessionaires. Regular fare increases are necessary to ensure adequate investment in the toll road system for the continued maintenance of SOGR.

HTA has not increased toll fares for HTA-owned toll roads since 2005. As a result, HTA has had difficulty investing in and improving its road infrastructure in years past, evidenced by the difference in the condition of HTA and concessionaire roads. As Exhibit 50 shows, the fare rates for two of HTA's four toll roads are below the U.S. median. Moreover, even when adjusted for income, all but PR-66 are below the upper quartile. PR-52, the largest toll revenue generator for HTA, falls well below the U.S. median even when adjusted for income. This suggests an opportunity for toll fare increases that would not only generate additional revenue but also bring HTA-owned toll roads in line with U.S. peer roads.

Exhibit 50: Comparison of tolling in Puerto Rico and other US states



¹ Toll rates are the standard Electronic Tag Tolls with no further discounts (e.g., no weekend, volume, senior, loyalty programs). Tolls as of Jan 2018

² Income indexed to Puerto Rico based on 2019 CPI per capita for each state

SOURCE: SDG toll rate benchmarking analysis, SDG toll rate & traffic revenue forecast, Moody's CPI per capita by state 2019

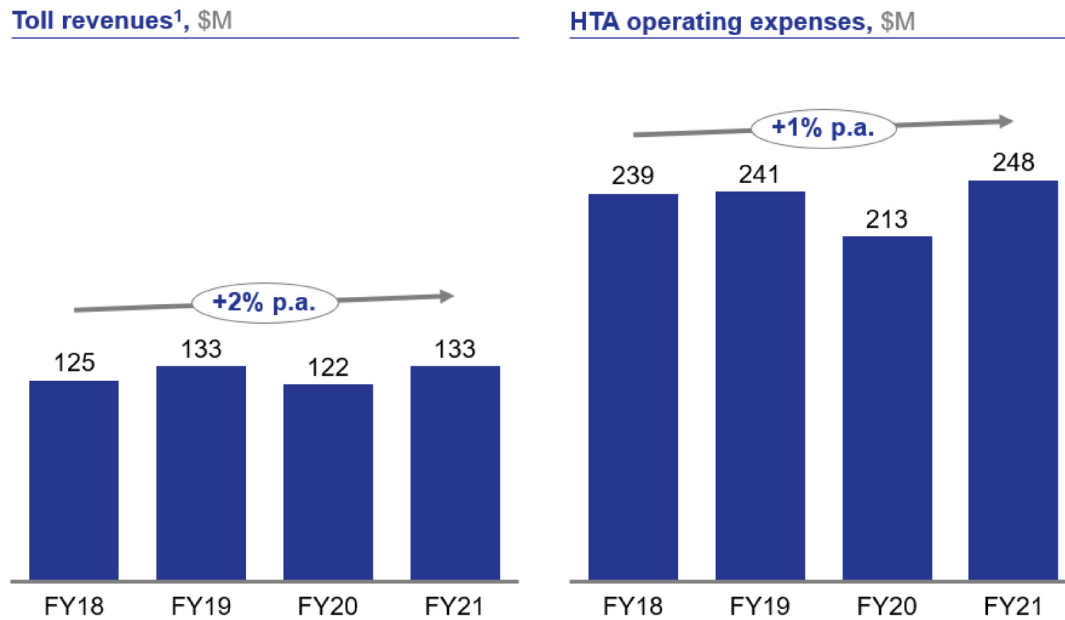
Toll fares now face a 16-year gap where they failed to keep pace with expenses. Each year HTA fails to implement these increases, fare pricing on the Island falls increasingly out of step with inflation and, by extension, the cost of maintaining HTA-owned roads and transportation assets. The gap between toll revenues and operating expenses remained largely flat through COVID-19 (see Exhibit 51) yet is forecast to steadily grow without fare increases. This gap could be covered by toll fare increases that catch up with inflation adjustments that have not been implemented since 2005 and maintains inflation-based increases thereafter.

Since 2015, HTA has offset its deficits with transfers from the Commonwealth and reallocation of capital expenditure funds to operational expenditure accounts. This approach prevents HTA from achieving its capital delivery targets and depletes funds that could be used for other purposes and are necessary to improve the transportation system.

Lack of investment leads to an inability to properly maintain roads, thus inhibiting economic growth in Puerto Rico. The increasing gap between toll revenues and operating expenses only

further highlights the importance of implementing initial fare increases to make up for the lack of revenue in recent years.

Exhibit 51: Comparison of toll revenues and operating expenses, FY18-21



¹ PR-20, PR-52, PR-53, PR-66, and related V-tolls (both period and off-period)
SOURCE: FY21 Certified Fiscal Plan, June FY18 B2A

The 2022 HTA Fiscal Plan outlines a fare increase schedule that would allow for HTA to make up lack of fare increases since 2005. The Plan schedule will enable fares, over time, to catch up with inflation since 2005 and compensate for the lack of increases in FY20 and FY21. For FY22 to FY24, the schedule imposes annual fare increases of 8.3%. From FY25 onwards, annual increases adjust to CPI plus 1.5%, in line with the existing concessionaire agreements in Puerto Rico. The impact of fare increases on HTA's revenue is shown in Exhibit 52.

In the event that other revenue-generating measures are identified that generate an impact incremental to the estimates contained in this plan, any impact over-and-above the levels estimated in the 2022 HTA Fiscal Plan could be used to offset a portion of these toll fare increases.

Increased fares will also allow HTA to make up for foregone revenues and to strengthen its toll road network. A prompt increase to account for historical inflation and non-implementation of fare increases should improve HTA's ability to cover its operating expenses and invest in the safety and quality of the road network. Observed price elasticity of toll roads in Puerto Rico (e.g., concessionaire roads) suggest that, in the short term, demand should remain inelastic. The 2022 HTA Fiscal Plan assumes inelastic demand (0.05), consistent with both academic

research and case studies of Puerto Rico's demand for toll roads.^{80,81} Furthermore, concessionaire roads in Puerto Rico, which have a similar schedule of increases as is proposed by the toll fare increase measure,⁸² reinforce the benefit of higher revenues enabling investment for better road quality. As of May 2021, less than 1% of PR-22's pavement is in "poor" condition, compared to 12% of Puerto Rico's interstate system. Based on these assumptions, Exhibit 52 and Exhibit 53 demonstrate revenues and traffic volumes forecasted over time.

Exhibit 52: Additional revenue from toll fare increases, FY22-51

Additional revenue brought in by toll fare increases, \$M

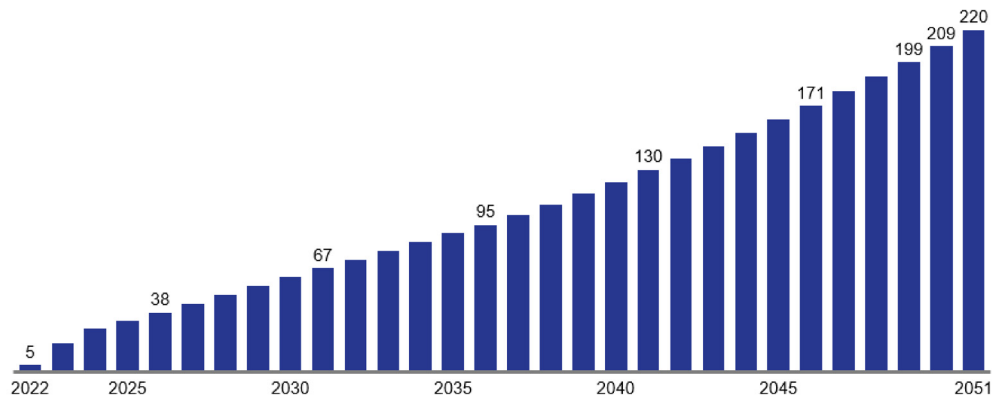


Exhibit 53: Impact of toll fare increases on toll prices, FY22-51

Average toll price¹ (USD)

Road	Plaza	Current	FY2025	FY2030	FY2035	FY2040	FY2045	FY2051
PR-20	Guaynabo	0.75	0.98	1.14	1.32	1.55	1.84	2.24
PR-52	Ponce	0.75	0.98	1.14	1.32	1.55	1.84	2.24
PR-53	Hucar	1.00	1.31	1.52	1.77	2.07	2.45	2.99
PR-66	Rio Grande	1.00	1.03	1.20	1.39	1.63	1.92	2.35

¹ For PR-20, PR-52, and PR-53, fares shown are based on current rates for Class 1 vehicles projected to grow by CPI+1.5%, with three years of additional increases of approximately 7% for "catch up" from non-increases in FY20 and FY21. For PR-66, fares increase at a rate of CPI+1.5% beginning in FY25.

⁸⁰ Pricing for toll roads is a function of the elasticity of the demand for travel. Demand in the absence of alternative routes of similar quality and availability, especially during peak times, remains relatively stable in the short term and slightly lower in the long term as a result of changing traffic and commuting patterns over time. As such, Puerto Rico's toll road fares are projected assuming greater inelasticity per the assumptions laid out by FHWA in its study, "Economics: Pricing, Demand and Economic Efficiency." <https://ops.fhwa.dot.gov/publications/fhwahop08041/fhwahop08041.pdf>

⁸¹ For example, a ~43% toll fare increases across toll plazas in 2005 yielded a 50.4% growth in revenues for HTA between 2005 and 2007, highlighting limited relative impact on demand.

⁸² Metropistas operates roads with a CPI plus additional 1.5% schedule of annual increases.

The 2022 HTA Fiscal Plan includes below a timeline that HTA should follow to roll out the proposed toll fare increases, in line with the 2021 Certified Fiscal Plan. The implementation of this timeline, however, has already been delayed. The 2022 HTA Fiscal Plan requires HTA to address any outstanding delays or promptly identify alternative measures that would enable the achievement of its target revenue profile.

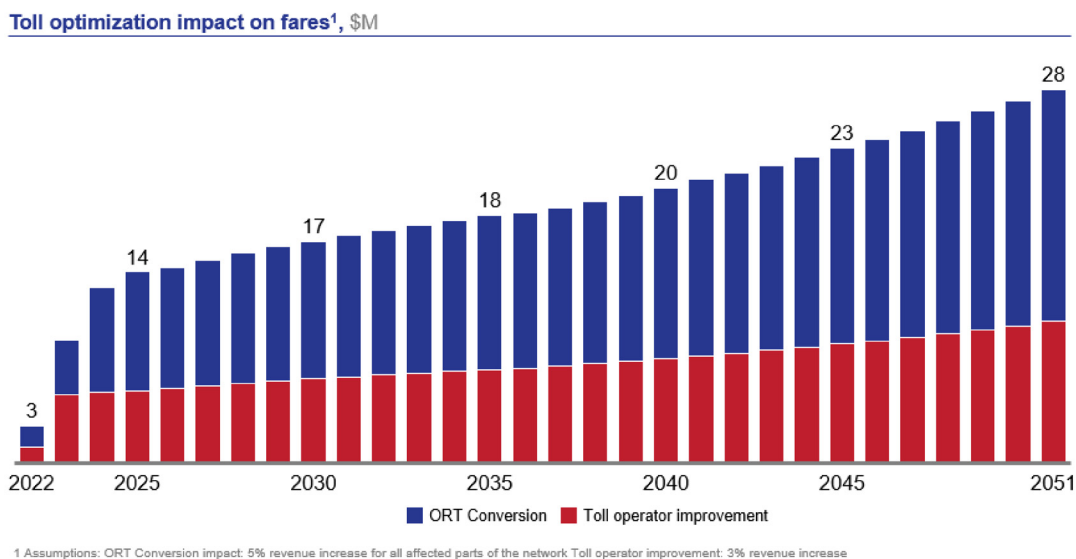
Exhibit 54: Toll fare increase implementation

Measure	Action item	Responsible party	Deadline
Implement toll fare increases	Hold sessions informing public of upcoming fare adjustments	HTA	November 1, 2021 (Delayed)
	Increase toll fares in line with the Fiscal Plan	HTA	January 1, 2022 (delayed)
	Implement recurring toll fare increases at end of each Fiscal Year	HTA	January 1, 2022-2051

Optimizing fare collection

The 2022 HTA Fiscal Plan also requires the Authority to optimize fare collection by installing new tolling systems and simultaneously expanding ORT. Optimizing tolls and expanding ORT will require an investment of approximately \$55 million in capital expenses from FY22 to FY24. This figure will be fully offset by the additional toll revenues that the optimized fare collection will generate over the next 30 years (approximately \$596 million), as seen below.

Exhibit 55: Impact of toll optimization on fare revenue, FY22-51



In 2018, HTA appointed a temporary operator for a transition period of 18 months and initiated a process to select a permanent operator for all toll roads. The procurement process of the operator is subject to the outcome of the ongoing legal proceeding related to the original RFP. However, HTA has worked with the existing provider and is moving forward with optimization measures while the litigation is resolved. The permanent operator plans to install new systems that increase the reliability and speed of transaction processing and account balance

maintenance, better track toll violations and ensure data collection complies with all relevant security protocols.

HTA has made initial progress on toll optimization measures. The ORT plazas at Juana Diaz and PR-66 have already been upgraded and reflect increased quality and accuracy of toll collections. Furthermore, HTA has launched a mobile customer interface and app to improve service delivery options. During Q3 of 2021, merchant fees at replenishment lanes will be replaced, creating additional savings. While progress has been made, HTA should diligently follow the timeline outlined in Exhibit 56 to ensure that toll optimization measures are completed and to enhance toll fare revenue beginning in FY22.

Through implementation of toll optimization measures, HTA expects several outcomes. For users, HTA hopes to deliver increased reliability and speed in transaction processing and account concerns, as well as new customer-friendly channels to increase registered accounts. These channels are also expected to reduce violations. Furthermore, HTA plans to enact a PCI compliant system, as well as transparency between the lane and back offices, optimizing transaction capture and recording.

Exhibit 56: Required Implementation Actions for optimizing toll fare revenue

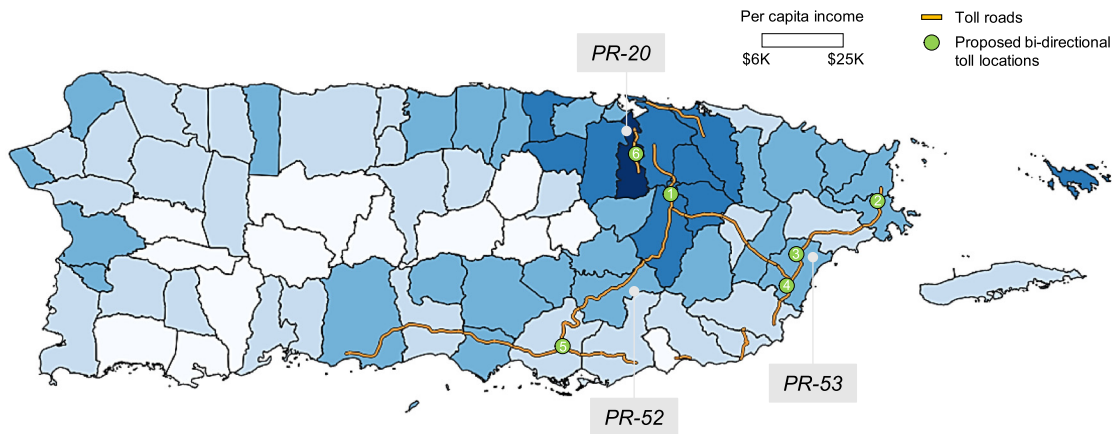
Measure	Action item	Responsible party	Deadline
Optimize toll fare revenue	Introduce optimized electronic fare collection system	HTA	In process
	Begin expansion of ORT	HTA	December 31, 2022
	Issue RFP for new toll operator	HTA	January 31, 2023
	Select new toll operator and begin contract negotiations	HTA	June 30, 2023
	Finalize new operator contract and submit for FOMB review	HTA	August 31, 2023
	Begin operations under new toll operator	HTA	October 1, 2023

11.2 Implementing bi-directional tolling

Uni-directional tolling was initially implemented by HTA in the late 1990s to streamline manual tolling. However, the adoption of ORT through the installation of bi-directional gantries will allow HTA to improve compliance and equity with fare collection, including reducing leakage (e.g., users of toll roads who circumvent toll plazas). The benefits from bi-directional tolling will outweigh the initial capital and ongoing operating costs.

A third-party report commissioned by HTA identified six potential high value locations for bi-directional tolling (1) Guaynabo, (2) Ceiba, (3) Humacao Norte, (4) Humacao Sur, (5) Caguas Norte, and (6) Hucar.

Exhibit 57: Map of proposed bi-directional tolling locations



To quantify the impact of changing the current one-way tolling scheme to a two-way tolling scheme on the proposed plazas, HTA collected data on the plazas and then used network models to assess sensitivities around different tolling scenarios to finally estimate the expected revenue impacts for each toll plaza. Assuming that the two-way tolls would be half of the current toll rates plus \$0.05 and that in converting a toll plaza from one-way tolling to two-way tolling, tolled traffic is expected to more than double:

- While traffic levels are generally higher in the non-tolled direction indicating that some travelers are traveling a different route to avoid the toll, the toll rate in the currently tolled direction will decrease with the conversion and thus that direction should experience a higher traffic level.
- Once the toll rate is equal in both directions, the currently non-tolled direction should obtain a similar level of traffic as the tolled direction with the lower two-way toll.
- The magnitude of the increase will be influenced by the size of the traffic difference between the current tolled and non-tolled directions and the attractiveness of the non-tolled route

With these assumptions, HTA estimated that toll fare revenues would increase by ~10-30% across the affected plazas. While this estimated revenue improvement target represents a significant improvement compared to the assumptions provided in the 2021 Certified Fiscal Plan, the 2022 HTA Fiscal Plan maintains a more conservative expected revenue improvement of 5%, with proposed rollout of bi-directional tolling across 7 plazas. This would translate into \$149 million of additional revenue over the period of the Fiscal Plan, notwithstanding \$30 million in capital investment costs to install gantries over FY22 to FY24.

As actual data from the implementation of bi-directional tolling comes in, this projection may need to be refined and revised upward, if the 10-30% increase estimated by third-part analyses are realized.

Exhibit 58: Required implementation actions for bi-directional tolling

Measure	Action item	Responsible party	Deadline
Implement bi-directional tolling	Procurement of a third-party consultant to conduct traffic studies for proposed locations	HTA	Complete
	Completion of study with cost-benefit analyses and recommendations for plazas	HTA	Completed
	Roadside equipment (RSS) request for proposal published	HTA	Completed
	Note to proceed per RSS request for proposal	HTA	Completed
	Phase 1: Collection begins for ~6 plazas	HTA	July 1, 2022
	Phase 2: Collection begins for up to ~7 plazas	HTA	July 1, 2023

11.3 Increasing toll fines, introducing a tiered fine system and optimizing fine collection

Toll fines are an additional critical component of the overall revenue profile that HTA must achieve during the period of FY22-51. The 2022 HTA Fiscal Plan outlines three steps that HTA should undertake to achieve that revenue target, namely:

- Optimizing fine collection (e.g., through collection rate improvements)
- Increasing toll fines in line with inflation
- Introducing a tiered fine system that would double fines remaining unpaid for more than 6 months

Together, these measures could generate approximately \$100 million cumulatively from FY22-26 and \$864 million cumulative from FY22-51, plus an additional \$20 million of cost savings. HTA may propose and implement alternate means or approaches for generating toll fine revenue, provided such alternate means or approaches achieve the same level of aggregate revenue per year as those reflected in the Fiscal Plan. Otherwise, HTA must implement the measures outlined herein to ensure full compliance with the Fiscal Plan's fiscal objectives.

Optimizing fine collection

With the introduction of a new toll operation system, the fine collection rate is expected to increase from 60% (pre-Maria historical average) to 80%, while fine collection lifecycle is expected to decrease from 18 to 12 months. These improvements are projected to generate \$59 million in additional revenue over the next five years (FY22-26) and \$343 million through FY51. Toll fine optimization improvements are also projected to generate \$20 million of cost

savings through FY51, given that the new system will reduce HTA's dependence on physical fine enforcement mechanisms.⁸³

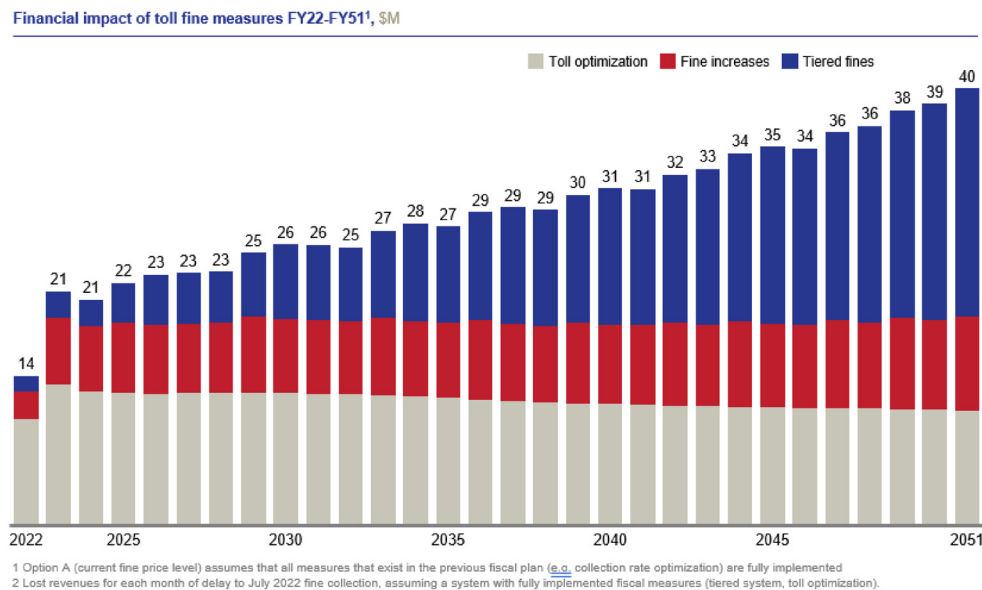
Increasing toll fines and introducing a tiered fine system

To achieve the fiscal targets contained in the 2022 HTA Fiscal Plan and ensure that its operations are adequately funded, HTA should increase its fine rates in line with inflation and implement a tiered fine system to reward early payment. Increasing fine prices in line with inflation (to the closest multiple of \$1) will align with both the scheduled increases in toll fares and the Federal Civil Penalties Adjustment Act of 2015. Fine increases will consequently encourage drivers to avoid penalties and minimize nonpayment of fines. Furthermore, implementation of a tiered fine payment system is consistent with best practices of other U.S. states.⁸⁴ The system will incrementally increase fines for all violations that go unpaid for over six months.⁸⁵ The tiered system should reward timely payments and penalize late payment. These two measures should generate \$41 million in additional fine revenue over the first five years (FY22-26) and \$521 million by FY51 (Exhibit 59).

Legislative action is required before HTA can implement toll fine increases and establish a tiered toll-fine structure. To help HTA implement these strategies by Q4 of FY22, HTA and the Commonwealth should collaborate to develop the necessary legislation and support its approval by February 28, 2022.

The implementation of this measure may be delayed, as HTA evaluates changes to fine pricing. The 2022 HTA Fiscal Plan requires HTA to mitigate any potential delays or promptly identify alternative measures that would enable the achievement of its target revenue profile.

Exhibit 59: Impact of toll fine measures, FY22-51



⁸³ E.g., letters notifying violators that fines are pending after several months of nonpayment

⁸⁴ In Virginia, for example, unpaid fines double after 2 months and increase eightfold after 4 months.

⁸⁵ For the purposes of this Plan, HTA has assumed that fine prices would double after a violation remains unpaid for six months. The simplicity of the tiered system structure would ensure straightforward implementation.

Exhibit 60: Required implementation actions for increasing toll fine revenue

Measure	Action item	Responsible party	Deadline
Increase toll fine revenue	Resume fine collections with optimized electronic fine collection system	HTA	Complete
	Develop draft legislation for tiered fine system/ fine inflation increases and submit for FOMB review	Commonwealth	August 30, 2021 (Delayed)
	Approve Law enabling fine price modifications	Commonwealth	November 30, 2021 (Delayed)
	Introduce tiered fine system	HTA	February 28, 2022
	Implement recurring toll fine increases at end of each Fiscal Year	HTA	March 31, 2022

11.4 Improving ancillary revenues

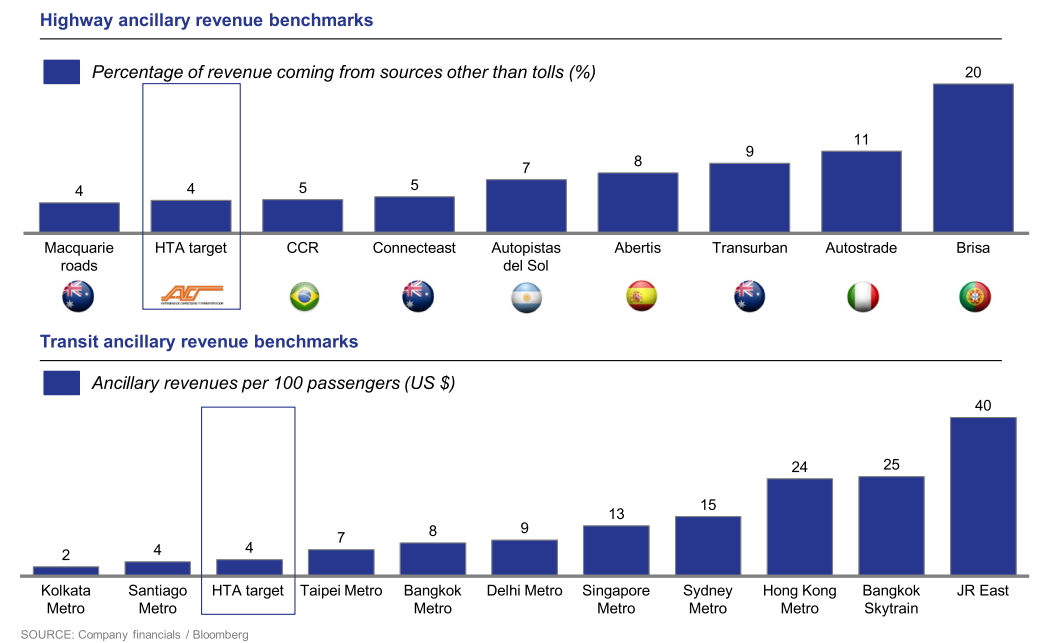
HTA has been implementing strategies over the last year to generate ancillary revenues. Implementation thus far has focused on disposing of real estate assets. However, this strategy cannot continue over the long run because it would deplete most of HTA's real estate portfolio.

Despite the temporary ancillary revenue decline in FY21 due to COVID-19, HTA expects to generate \$1.1 million a year in incremental ancillary revenues from FY22 to FY26, primarily as a result of the sale of a majority of HTA's non-core assets. A third-party contractor will determine whether properties being considered for sale could sustain long-term, repeating revenues prior to being sold in the short term. The contractor will also identify the activities that will allow for short-term revenues to be pursued. Future asset sales will be considered as HTA continues to identify and liquidate available properties; however, property and asset sales are not a sustainable source of revenue that can be relied on in the long term.

HTA has also identified suggestions for sustainable, repeatable sources of ancillary revenue that will eventually become a majority of HTA's ancillary revenues. For example, HTA is in process of developing a plan to hire a third party to manage TU parking operations. While revenue opportunities would be limited, HTA would offset approximately \$1.5 million in operating expenses related to maintenance.

Emulating peer transit systems that have explored diversified ancillary revenue opportunities (e.g., advertising, space rentals, real estate development) would further allow HTA to increase its ancillary revenues sustainably.

Exhibit 61: Benchmarks of ancillary revenue performance



To achieve the fiscal targets contained in this Fiscal Plan and ensure its operations are adequately funded, HTA must increase TU's ancillary revenues by:

- **Real estate leasing and development (as opposed to direct sale):** HTA must maximize retail business spaces at the TU stations by renting available spaces. HTA should plan to explore the development of HTA-owned properties near TU stations. To maximize the attractiveness, safety and traffic in these areas and encourage TU ridership, HTA should collaborate with the private sector. Doing so will increase fare revenues and generate a passive income stream from rentals.
- **Advertising:** HTA must maximize advertising revenue by installing advertisements in different locations within TU stations (e.g., platform walls and pillars) its fleet and materials (e.g., tickets and rail cars). It should outsource advertising management to a private agency that is an expert in attracting advertisers.

HTA must also increase the ancillary revenues of its highway operations through other means, including:

- **Real estate development or rentals:** HTA should partner with private companies to build and operate highway-side facilities (e.g., service stations, hotels and gas stations), to boost its income from real estate. The concessions must be structured so that the concessionaires pay either a lump sum payment at the beginning or a recurring annual payment on the basis of the rents they collect from these facilities. HTA should also enhance its existing service stations with improved services that will enhance the experience at and revenues from the stations.
- **Advertising:** HTA should install advertisements on billboards, road signs and toll plazas in a manner that complies with the federal and local legal limitations on Out of Home (OOH) advertising. HTA is currently evaluating a proposal for the construction of fiber optic communication infrastructure along the PR-5 and PR-22 toll roads, which

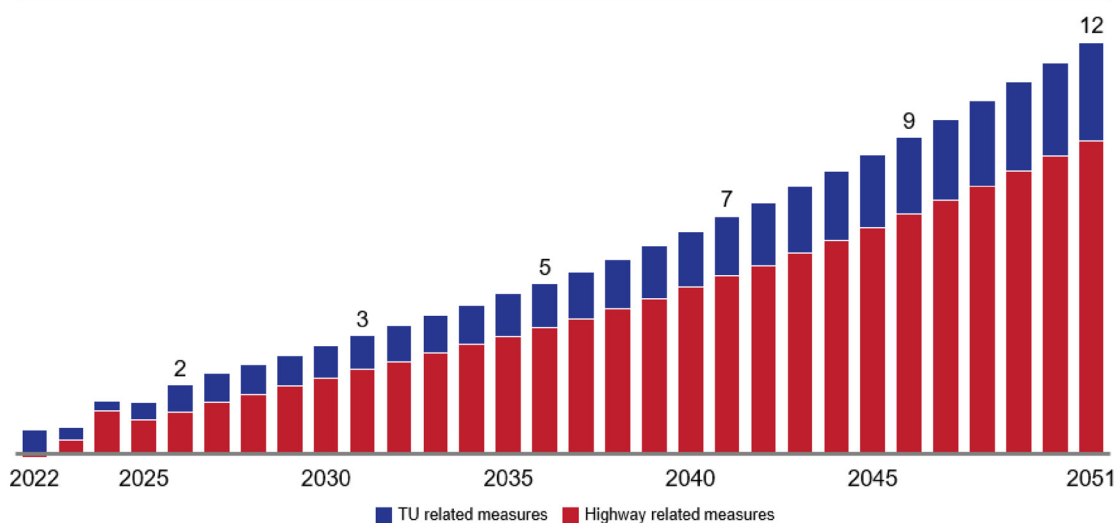
would improve the overall resiliency of Puerto Rico's communication network, while also providing additional non-toll revenue to HTA. This project is in the initial stages of evaluation, but early estimates suggest potential yearly revenues for HTA between \$700K and \$3.1M and margins of 20%. In addition, on March 2021, HTA submitted a proposal to the Puerto Rico Public Private Partnerships Authority ("P3 Authority") for a P3 project to modernize HTA's digital infrastructure, which would provide greater access to high-speed internet to the public, while providing additional revenues to HTA. The P3 Authority will conduct a Desirability and Convenience Study to determine the viability of the project. Once this study is completed, HTA will be able to provide a more detailed project scope, revenue estimates and implementation timeline.

HTA should also evaluate other high-impact opportunities that may currently face legislative or administrative constraints and explore ways to maximize its revenues within those constraints. Through P3's for new revenue share mechanisms such as for broadband and telecommunications, HTA could potentially charge utility companies for access to Right of Way (ROW) land plots near highways and TU tracks. Exhibit 62 highlights the combined benefits of these activities.

If HTA were to collect ancillary revenue similar to successful peer benchmarks per a moderate scenario,⁸⁶ it would increase its ancillary revenues by \$6 million through FY26 and by \$163 million through FY51.⁸⁷ In order to meet these targets, HTA must invest approximately \$0.4M per year (adjusted for inflation) from FY22 onwards in an ancillary revenue management team.

Exhibit 62: Impact of ancillary revenue measures, FY22-51

Ancillary revenue measures impact¹, FY22-51, \$M



¹ Assumptions: TU ancillary revenue measures are designed to help HTA's TU operations attain \$4.14 per 100 passengers by FY2025 / Highway ancillary revenue measures are designed to help HTA's highway operations become 4.4% of toll revenues by FY2025 / Both targets assume that TU ridership and toll revenues would increase due to the implementation of the fiscal measures included in this Plan (e.g., transit enhancements, fare increases) / Numbers for highway measures incorporate impact of planned investment (~\$0.4M / year)

⁸⁶ Assumptions include target revenues to be 5.1% of toll revenues, based on FY21 data and a target non-farebox revenue per 100 passengers to be \$5.64.

⁸⁷ Targets are based on HTA maintaining the following ratios stable at their FY21 levels: Tren Urbano anc. revenues / Tren Urbano passengers & Highway anc. revenues / Toll fare and fine revenues. Keeping these ratios stable while increasing Tren Urbano ridership and toll revenues (thanks to other fiscal measures) would push HTA to substantially increase its ancillary revenues as well.

Exhibit 63: Required implementation actions for improving ancillary revenue

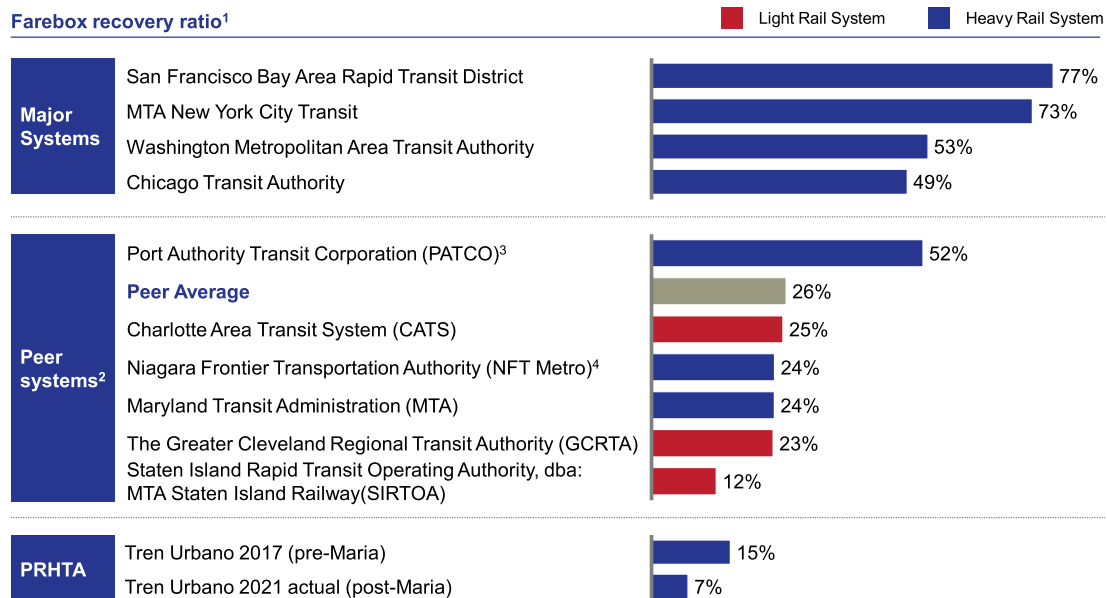
Measure	Action item	Responsible party	Deadline
Improve ancillary revenue	Hire ancillary revenue management team	HTA	Completed
	Begin a campaign to increase ancillary revenue through short-term gains (e.g., advertising)	HTA	February 28, 2022
	Begin coordination with third parties for ancillary revenue increases that require contracting (e.g., rentals)	HTA	March 31, 2022
	Begin ancillary revenue increases that require long-term planning and complex legal agreements (e.g., joint real estate development initiatives)	HTA	June 30, 2022
	Develop a comprehensive ancillary revenue strategy, which will include a full asset inventory and an analysis of administrative constraints and submit to FOMB for review	HTA	June 30, 2022

11.5 Expanding transit fare revenues

Historically, TU has underperformed peer small metro transit authorities in medium-sized U.S. cities in terms of farebox recovery ratio (“FRR”). FRR, the ratio of operating revenues to operating expenses, is a measure of the financial sustainability of a system, with higher number indicating a higher level of financial sustainability. In FY17, before Hurricane Maria, TU’s Farebox Recovery Ratio (FRR) was approximately 15% before falling to ~11% in FY19. This compared to an average of ~25% of peer systems over the same time period, indicating TU’s relative lack of financial sustainability. A key driver of the fall in FRR has been a fall in ridership; TU’s ridership has fallen to ~1.5 million passengers, well below peer systems such as Baltimore’s SubwayLink, which has an annual ridership of ~8 million passengers.

The low FRR and ridership metrics are driven by TU’s difficulty in attracting riders, which stems from several factors: technical infrastructure problems (e.g., malfunctioning Point of Sale machines), little integration between the TU and San Juan’s other public transit systems (e.g., PRITA buses and the ATM ferry) and riders’ tendency to use private vehicles or transportation networks (e.g., públicos). Furthermore, COVID-19 negatively impacted TU as it did many transit systems, causing ridership to drop by ~75%. Because of these factors, TU’s FRR fell to approximately 2% in FY21.

Exhibit 64: Comparison of TU FRR with Peer Transit Systems



¹ Revenues earned from fares/Total operating expenses; ² Data was available through March 2019, was annualized to calculate annual farebox revenue; ³ Heavy rail line connecting New Jersey suburbs with Philadelphia; ⁴ Buffalo's light rail line; ⁵ Peers were chosen from both Light Rail (LR) and Heavy Rail (HR) reporting entities that met 3 of 4 criteria: Less than 18 stations (TU=16), Less than 40 track miles (TU=25.5), Less than \$15M in 2017 operating revenue (TU=\$9.8M), Less than 11M Unlinked Passenger Trips (TU=9.8M)

SOURCE: National Transit Database (NTD) FY 2017, PRHTA TU Ridership Data (March 2019)

By improving service, HTA's ridership should increase. Based on COVID-adjusted performance of peer systems, TU's FRR could increase approximately 18% with improved service. HTA's transit revenues would increase by approximately \$19 million by FY26 and about \$283 million cumulatively by FY51.⁸⁸ It would also reduce the environmental impacts of private-vehicle ownerships and enhance affordable commuting options for low-income households. To attain this FRR, HTA must enhance revenue in two categories: (i) improvements it can directly implement; and (ii) improvements where HTA needs to collaborate with other public or private entities (e.g., integration with the Metropolitan Bus Authority (AMA by its Spanish acronym) buses and Públicos). HTA must implement the following improvements:

- Point of Sale (POS) system repair:** The fare collection system is an integral part of the public transportation system. The fare collection software and back-office systems have remained the same since TU began operations in 2005, which now results in operational challenges for HTA. Following the hurricanes of 2017, 25% of ticket vending machines and 49% of passenger barriers were in operating condition; this reflects the current status of the system. The Automatic Fare Collection system (AFC) continues to operate in a state of severe post-hurricane degradation and limits the revenue stream and proper accountability. As a result of outdated POS systems, TU riders cannot use debit or credit cards to purchase tickets, further decreasing revenue opportunity and ridership. HTA is hiring a contractor to repair the POS machines and HTA projects the system will be fully operational by Q1 FY25. Once POS machines are reintroduced, TU fare revenues are expected to increase by 5% (increasing revenues by \$8 million from FY22 to FY51).
- Enhancement of TU's rider rules:** To ensure the fiscal targets contained in this Fiscal Plan are met, HTA must ensure that TU ridership rules encourage the use of public

⁸⁸ Gap of remaining 5% could be closed by implementing cost reductions.

transit and address the needs of commuters who rely on TU as their main mode of transportation (e.g., enabling the carriage of bicycles / scooters).

To enable the achievement of the fiscal targets contained in this Fiscal Plan, implementation of measures to promote economic growth and investment in the public transportation system, HTA needs to also work closely with other transit agencies, government authorities and private transport companies to carry out other initiatives (see Exhibit 66 for timeline):

- **Integrating public transit systems and agencies:** HTA needs to collaborate closely with other public transit agencies (e.g., ATM, AMA, PRITA) to integrate TU's operations with their bus and ferry networks, set forth below. Leveraging existing capacity will allow HTA to increase ridership and improve service quality. As part of this, HTA should:
 - Adopt a single farecard for all transit systems
 - Harmonize fares and schedules across TU, buses and ferries
 - Design a coordinated network of routes, creating high-frequency trunks with timed transfers to a useful branch network
 - Pool data to develop better scheduling and routing
 - Redesign the physical landscape around transit stations to make them more accessible for pedestrians and increase their visibility
- **Improving curb management practices:** HTA should work with the Commonwealth and local municipal authorities to promote innovative curb management practices (e.g., dynamic pricing for on-street parking and replacing on-street parking with drop-off zones). These programs will encourage commuters to use public transit, decrease congestion and increase TU's revenues.
- **Promoting Transit-Oriented Development (TOD) around TU stations:** HTA should identify regulatory requirements that prevent or impact the development of real estate near transit stations (e.g., zoning restrictions, setback requirements, parking minimums). HTA must then work with the Commonwealth and local municipal authorities to change regulations to facilitate TOD, increase community accessibility to public transport and generate traffic near transit stations.

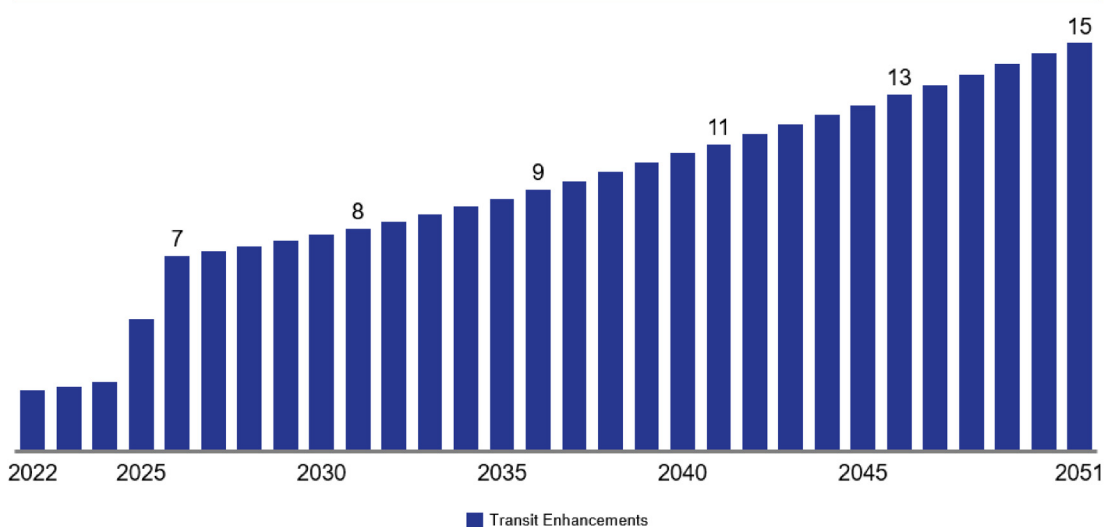
In line with the transportation sector reform, the implementation of these measures must begin with HTA, but happen in collaboration and as part of reform activities with PRITA.

Improved transit performance in the Commonwealth and TU in particular, can yield improved economic consequences. By improving the quality of transit operations, HTA decreases road congestion, reduces carbon emissions and improves mobility for lower-income residents of Puerto Rico.

The implementation of these transit improvements will have multiple positive effects for Puerto Rico's broader community and for HTA. The improvements are expected to decrease the average commute time of San Juan residents, make workers more productive, improve mobility and reduce the need to own a car. In doing so, the measures will increase TU's ridership from approximately 7 million (pre-Maria) to 15.6 million passengers per year.

Exhibit 65: Impact of transit revenue expansion measures, FY22-51

Transit measures impact¹, FY22-51, \$M



¹ Assumptions: Transit enhancements are designed to raise the FRR of TU to ~18% (closer to peer standards) by FY2026

Exhibit 66: Required implementation actions for expanding transit revenues

Measure	Action item	Responsible party	Deadline ⁸⁹
Integrate transit assets under a unified PRITA	Complete transfer of assets per transportation sector reform	HTA, ATM, PRITA, DTOP and AAFAF	June 30, 2023
Integrate transit networks	Adopt single farecard across systems	HTA, ATM and PRITA	June 30, 2021 (Delayed)
	Harmonize fares, routes and schedules across systems	HTA, ATM and PRITA	December 31, 2022 (Delayed)
	Begin partnerships with private transport networks	HTA, PRITA, Private networks	December 31, 2022 (Delayed)
Promote TOD	Identify barriers that prevent denser development near transit	HTA, ATM and PRITA	January 31, 2022 (Delayed)
Implement TU improvements	Complete repair of Point of Sale (POS) machines to enable credit card usage	HTA	June 30, 2022 (Delayed)
	Enhance TU ridership rules	HTA	September 30, 2022

⁸⁹ Given HTA's latest fiscal measure implementation reporting (December 2021 B2A), the Authority has experienced set back and anticipates delays in the implementation of fiscal measures identified as "delayed" in Exhibit 62.

11.6 Introducing new congestion management mechanisms

HTA is in the process of implementing dynamic toll lanes (DTLs) to reduce congestion. Baseline metrics have been developed and will be reported against to measure the efficacy of these initiatives and status of the overall initiative. HTA continues to implement the following measures:

- **Create new Dynamic Toll Lanes:** DTLs are created to charge different rates for toll road users depending on the time of use. The proposed DTLs will increase tolls for drivers during peak hours, motivating them to ride-share or use public transport. These lanes are projected to generate net impact of approximately \$284 million cumulatively by FY51.

Exhibit 67 shows the combined impact of DTL revenue and Exhibit 68 shows their implementation timeline.

Exhibit 67: Impact of Dynamic Toll Lanes measure, FY22-51

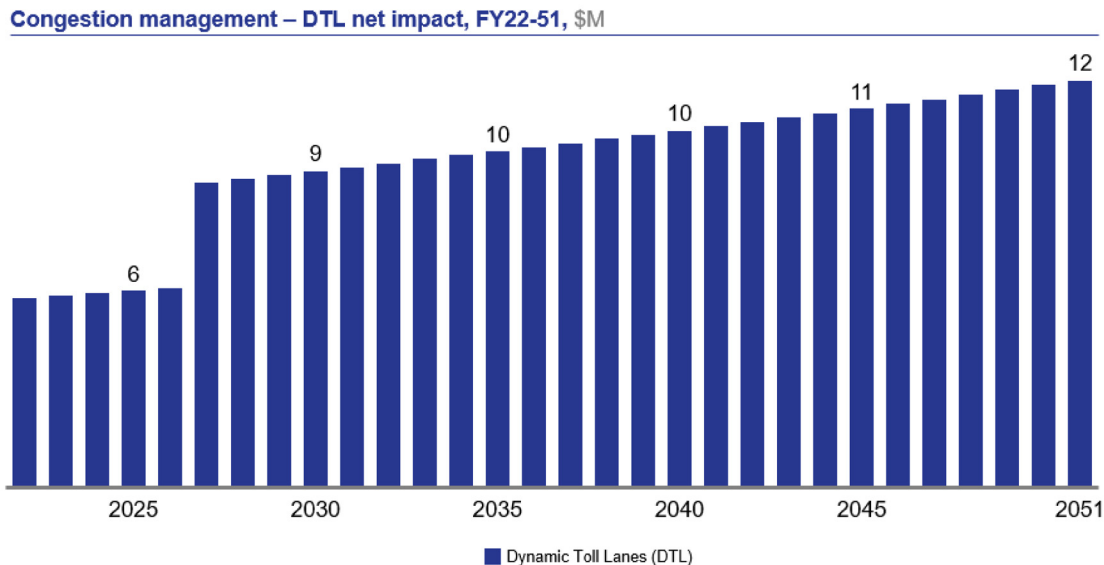


Exhibit 68: Required implementation actions for Dynamic Toll Lanes

Measure	Action item	Responsible party	Deadline
Introduce new congestion management mechanisms - DTL	Complete planned DTLs	HTA	Complete
	Complete DTL expansion of PR-52 to PR-30	HTA	June 30, 2026

11.7 Collecting more discretionary funds

HTA's current fiscal constraints leave few resources available for the execution of capital improvements that go beyond the maintenance of SOGR. However, the Authority should attempt to invest in other enhancements, such as safety improvements, strategic network completion projects and congestion alleviation interventions.

In order to pursue these investments, HTA would need to successfully secure federal discretionary funds. BIL represents a generational opportunity to win federal funding that can transform the transportation networks of Puerto Rico. A successful grant strategy can enable the Commonwealth to get its “fair share” of nearly \$100B in net new, competitive, federal discretionary transportation funds over the next 5 years. This funding would allow HTA to purchase clean buses to both improve service and air quality; build out new bicycle and pedestrian infrastructure to promote mobility; bring additional bridges to a SOGR, and reknit communities together that may have been torn apart by aging highways. The result would be a permanent trajectory towards increased mobility, cleaner air, and greater economic development.

Community Development Block Grants (“CDBG”)⁹⁰ should also be a key source of discretionary funding for HTA in the short term, while HTA builds capacity and begins to address other grant opportunities. In the longer term, however, HTA should set a strategy to apply for larger federal grants, such as INFRA (supporting projects with beneficial impact on economic development) and RAISE (boosting investments in safety and environmental sustainability)

To get these grants, HTA should pursue an aggressive approach across three pillars.

- Setting up a new grant management team, with direct involvement of senior Authority executives. The following steps will be undertaken to establish such a team:
 - The current Deputy Executive Director will be appointed as Chief Discretionary Funds Officer (CDFO).
 - The role of the Director of the Federal Affairs Liaison Office will be expanded to include service as the Deputy Discretionary Funds Officer (DDFO), focused on FHWA grants. The DDFO has been identified and will soon be appointed.
 - The acting head of the Federal Coordination Office will also serve as Deputy Discretionary Funds Officer, with an emphasis on obtaining FTA discretionary grants.
 - Both Deputies will spearhead the efforts to prepare HTA for maximizing participation in earmarked projects, which may be adopted by the new Congress.
- Enhancing collaboration with federal agencies. The Discretionary Funds team should closely coordinate with the local FHWA and FTA Offices, as well as with Congress. In the meanwhile, HTA’s Executive Director will coordinate with the Secretary of the DTOP to collaborate with both the Puerto Rico Office of Federal Affairs and the Office of the Resident Commissioner. Lastly, HTA will contract a firm experienced in pursuing discretionary grants of USDOT and USHUD (two federal agencies through which HTA is eligible for grant awards)

⁹⁰ Community Development Block Grants are grants to states, cities and counties to develop viable urban communities by providing decent housing and a suitable living environment and by expanding economic opportunities, principally for low- and moderate-income persons. The program is authorized under Title 1 of the Housing and Community Development Act of 1974, Public Law 93-383, as amended 42 U.S.C. 5301 et seq.

- Creating a grant strategy for the island, so different agencies are not competing against each for similar pots of funds, and successfully accomplishing key activities in planning (e.g., develop priorities, create unique value proposition, project selection) pre-award (e.g., NOFO monitoring, education), application (e.g., cost-benefit analysis, technical analysis, compiling stakeholder support) and post-award (e.g., performance monitoring, outcome reporting).

Exhibit 69: Major sources of federal discretionary funds

Grant	Priorities	Eligible projects
INFRA	<ul style="list-style-type: none"> ▪ Supporting economic development and job creation to facilitate recovery from COVID-19 	<ul style="list-style-type: none"> ▪ Projects on the National Freight Highway Network (NHFN) ▪ Projects that add capacity to the National Highway System (NHS)
RAISE	<ul style="list-style-type: none"> ▪ Enhancing safety, environmental sustainability and securing a state of good repair for surface infrastructure 	<ul style="list-style-type: none"> ▪ Road and bridge construction ▪ Public transportation projects ▪ Intermodal projects
CIG	<ul style="list-style-type: none"> ▪ Promoting mobility improvements, congestion relief and economic development 	<ul style="list-style-type: none"> ▪ Public transport infrastructure improvement and expansion (rolling stock acquisition, platform expansion, ROW acquisition)

In addition to these grants, HTA must also pursue part of the \$18.5B CDBG funds that are currently available for Puerto Rico in order to make highways / TU more resilient to natural catastrophes

If HTA were to get its “fair share,” discretionary grant programs would add an additional \$90 million per year for capital investments. Achieving this benefit requires a proactive and deliberate strategy to review grant programs that align with investment priorities and needs, understand the requirements to determine what projects will score well, and develop project concepts and applications that have a higher likelihood of success. Due to the uncertainty inherent in discretionary fund applications and given any successful grant applicants would not have fiscal impact, rather enable greater investment, the Fiscal Plan does not include any specific target for grant amounts that could be allocated to HTA. Successful implementation of this measure, however, has the potential to generate a step-change in the investment in the system, thereby accelerating improvements in performance and condition.

Exhibit 70: Required implementation actions for collecting more discretionary funds

Measure	Action item	Responsible party	Deadline
Collect discretionary grants	Hire discretionary grant management team	HTA	December 31, 2021 (Delayed)
	Begin preparing discretionary grant applications and collecting all necessary supporting documents	HTA	March 31, 2022

CHAPTER 12: FISCAL MEASURES: OPERATING EXPENSE OPTIMIZATION

The following two fiscal measures will enable HTA to reduce its costs by approximately \$492 million over a 30-year period, thus delivering ~8% of the total fiscal measure impact:

1. Reducing healthcare costs in accordance with the Commonwealth 2021 Certified Fiscal Plan: \$132 million (~2%)
2. Reassessing TU contracts: \$360 million (~6%)⁹¹

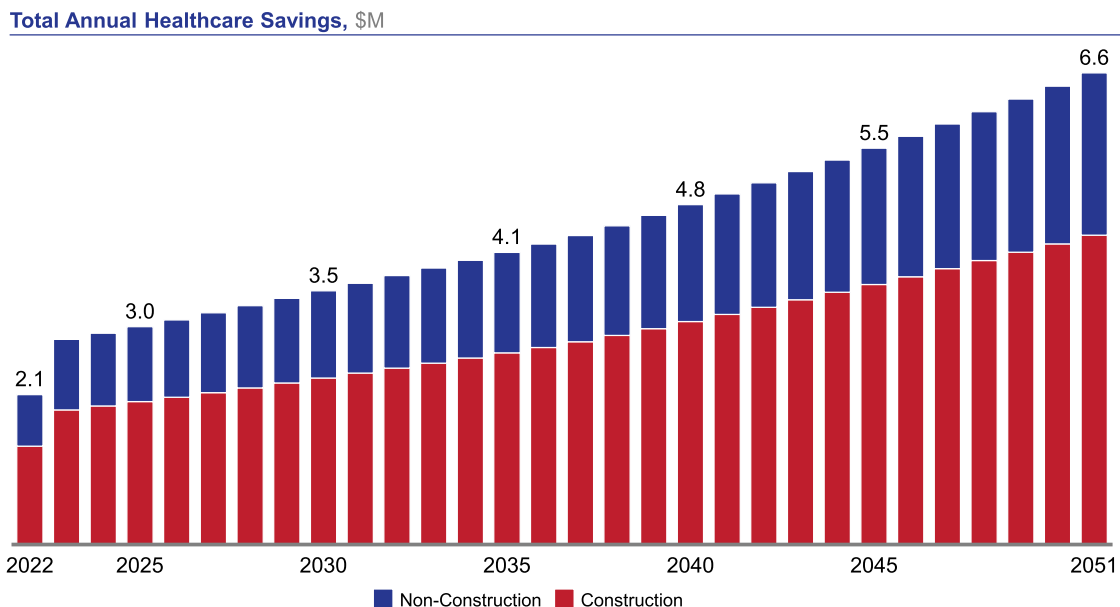
HTA must also pursue one fiscal measure that has a cumulative cost of \$167 million:

3. Improving congestion management through implementation of Bus Rapid Transit (BRT) and signal optimization

12.1 Reducing healthcare costs

To eliminate structural deficits and enable the achievement of the fiscal targets contained in the Fiscal Plan, HTA must adjust the current health care plan for its employees so that it is consistent with the Commonwealth's uniform healthcare benefit policy. This measure assumes an average employer contribution of \$125 per employee per month for those who do not have preexisting conditions and \$450 per employee per month for all others. As a public corporation, HTA has the option to participate in the private insurance market in a manner similar to any private corporation in Puerto Rico. These figures will be adjusted for inflation over time. This measure will generate an average annual savings of \$4.4 million, or \$132 million in total savings for the 30-year Fiscal Plan period from Q3 FY22 until FY51.

Exhibit 71: Annual Uniform Health Savings, FY22-51



Assumptions: Maintain benefits of \$125 / employee without pre-existing conditions and \$450 / all other employees; adjusted for inflation over time

⁹¹ This figure is a target and will be subject to the outcome of a competitive bidding process.

Exhibit 72: Required implementation actions for healthcare costs

Measure	Action item	Responsible party	Deadline
Reduce healthcare costs	Develop RFP to find and identify new healthcare provider consistent with certified budget	HTA	July 31, 2022
	Select new healthcare provider	HTA	September 30, 2022
	Finalize new healthcare insurance contract and submit to FOMB for review	HTA	November 30, 2022
	Begin new healthcare insurance contract	HTA	January 1, 2023

12.2 Reassessing TU contracts

HTA's operating budget includes major, long-term operating contracts that support transit, design and construction and other functions. At present, TU contracts exceed cost benchmarks from peer systems and past procurements. These contracts are frequently above benchmark because the contracts: (i) do not reflect HTA's current operating environment; (ii) include outdated fuel cost estimates; (iii) price in the risk of nonpayment from HTA; and (iv) are longstanding agreements that have been extended without modifying for the prior considerations.

At present, TU has a contract with ACI to operate and maintain TU. The duration of the contract is 15 years, from 2017 to 2032, with the possibility of extending for two more 5-year periods. The contract includes a base compensation of \$57.5 million annually, which covers labor; utility aside from electricity; low-cost repairs; security; maintenance of tracks, vehicles, facilities and equipment; customer relations and fare collection, among other obligations. Furthermore, HTA pays additional compensation of \$1.5 million a year to cover heavy maintenance, re-engineering of parts and additional purchases of spare parts. The contract does not cover capital improvement overhaul programs, which are funded by HTA grants, electricity payments, or insurance costs.

In accordance with HTA's status under Title III of PROMESA, HTA has the opportunity to request improved terms from individual contracting partners or re-bid outdated contracts through solicitation. If HTA's main operating contract⁹² matched peer system spend per track mile,⁹³ HTA would achieve annual savings of up to 58%, or \$32 million a year.⁹⁴ Outside of the base contract additional areas of greater expense to HTA are insurance and utilities. Although costs must be a primary concern, new contracts should also increase performance standards and counterparty accountability for providing better services. Such agreements can improve

⁹² Excludes insurance and utilities costs.

⁹³ Vehicle-revenue-miles (VRMs)

⁹⁴ Based on National Transportation Database 2019 operating expense information. Peer systems are other heavy rail, often single line systems in other U.S. states, including the PATCO Speedline, Metro SubwayLink, Staten Island Railway, RTA Rapid Transit (Red Line) and Miami-Dade MetroRail.

HTA's standing and enhance TU's farebox recovery ratio to fall closer in line with peer transportation systems.

As HTA's financial operations improve under new leadership and in accordance with FHWA MOU requirements and the 2022 HTA Fiscal Plan, HTA must strengthen the case for reduced cost of risk and will negotiate with vendors to improve TU contract terms, resulting in a potential saving of ~\$3m per year until the expiration of the current contract in FY32. After the expiration of the current contract, further cost optimization should be pursued through a competitive bidding process, leading to ~\$15m of potential savings per year until FY51. Lastly, HTA should outsource the parking lot operations in order to unlock an additional ~\$2m of savings per year across FY22-51.

TU may be transferred to a transit authority per the transportation sector reform. Given TU is currently under HTA's purview, fiscal measures and fiscal impact from the TU contract reassessment remains a measure in the 2022 HTA Fiscal Plan and HTA should remain responsible until the reorganization is complete.

Exhibit 73: Potential TU Contract reassessment savings, FY22-51

Potential TU Contract Reassessment Savings, \$M

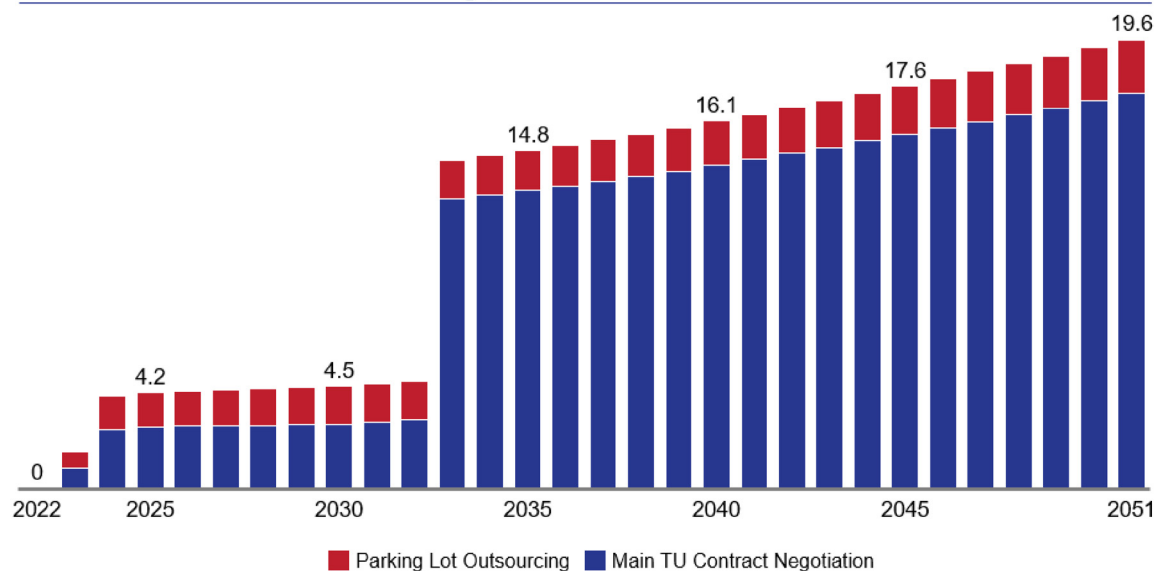


Exhibit 74: Required implementation actions for reassessing TU contract

Measure	Action item	Responsible party	Deadline
Reassess TU contracts	Begin reassessment of TU operating contract, which is set to end in 2032	HTA/PRITA/ P3A	Completed
	Launch a competitive procurement process for TU operating contract	HTA/PRITA/P3A	February 28, 2022
	Select new TU operator	HTA/PRITA/P3A	August 31, 2022
	Draft new operating contract and submit to FOMB for review	HTA/PRITA/P3A	November 30, 2022

Measure	Action item	Responsible party	Deadline
	Begin operation of TU under new contract terms	HTA/PRITA	February 28, 2023

12.3 Implementing congestion management mechanisms – Bus Rapid Transit (BRT) and signal optimization

HTA is planning to implement BRT lanes and signal optimization to reduce congestion. Baseline metrics have been developed and will be reported against to measure the efficacy of these initiatives and status of the overall initiative. HTA needs to continue to implement the following measures:

- **Optimize traffic signals:** HTA needs to continue to synchronize traffic signals in critical intersections. This will facilitate the flow of traffic in major urban traffic arteries and reduce the burden on commuters during high traffic-volume hours. It will require an upfront investment of approximately \$4.7 million in FY22 and about \$1.5 million in annual maintenance investments until FY51.
- **Expanding BRT and integrating it with TU:** Increasing the scope and frequency of its BRT operations will help HTA reach neighborhoods that do not currently have existing TU feeder bus lines. To accomplish this, HTA must continue working closely with DTOP and local municipal authorities to create more dedicated spaces for BRT operations (e.g., special road lanes and off-board collection areas).
- **Opening new BRT line:** BRT lines are used to ensure that buses can operate more efficiently and on a coordinated schedule by operating on separated lanes. The new BRT line from Caguas to San Juan is operational as of May 2021. While the addition of another BRT line is not expected to generate a positive fiscal impact, its development and implementation are necessary to provide residents of Caguas and surrounding areas access to reliable transportation services to the San Juan metropolitan area.

Exhibit 75 shows the combined impact of signal optimization and BRT and Exhibit 76 shows the implementation timeline.

Exhibit 75: Impact of congestion management measures, FY22-51

Congestion management measures – BRT and signal optimization impact, \$M

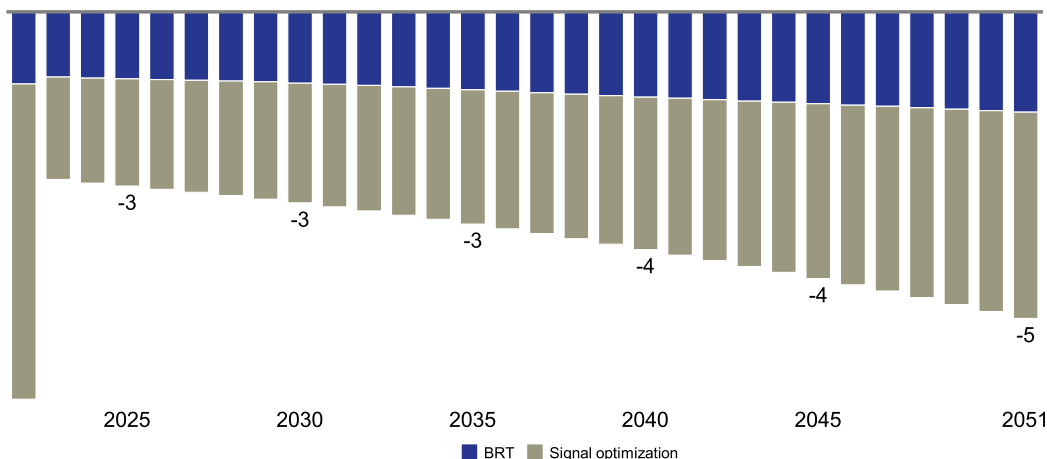


Exhibit 76: Required implementation actions for introducing new congestion management mechanisms

Measure	Action item	Responsible party	Deadline
Introduce new congestion management mechanisms	Identify potential new BRT lines	HTA	Completed
	Begin traffic signal optimization	HTA	June 30, 2022
	Create more dedicated BRT spaces (e.g., special road lanes and drop-off zones)	HTA, Commonwealth and Municipalities	June 30, 2024

CHAPTER 13: CAPITAL EXPENSE OPTIMIZATION

Over the last 20 years, HTA has invested about \$10 billion in infrastructure, including the construction of the TU system. According to third-party estimates, HTA would need to invest \$4.7 billion (hard costs) by FY36 to achieve SOGR for highway pavement. HTA needs to execute on this investment to improve, rehabilitate and preserve existing roadways. The capital investment to upgrade and maintain Puerto Rico's roads in SOGR will in turn support Puerto Rico's residents and promote economic growth across the Island.

The Authority is adopting a capital program, optimized to reduce HTA's expenses by approximately \$0.3 billion over a 30-year period, delivering 5% of the total fiscal measure impact. Implementation of the capital program will also help HTA ensure its projects are delivered on-time and on-budget, by making good use of scarce resources for capital projects

Optimizing Construction Costs

HTA must continue to prioritize its projects and deliver more efficiently in a manner that maximizes the value of its investments in the transportation system. Based on peer benchmarks and internal examples of success, these efforts should reduce current capital project spending requirements by 5% or more, without impacting the quality and outcomes of projects, to ensure the fiscal targets contained in this Fiscal Plan are achieved. As such, there are three ways to optimize CIP: (1) prioritize projections for selection; (2) optimize delivery; and (3) identify soft cost efficiencies.

Project prioritization

HTA's planned projects for the Fiscal Plan period should focus on highway safety projects, improvement of existing infrastructure and improvement of buses and the TU system. At present, HTA uses a set of guidelines developed by the FHWA to prioritize projects for pavement reconstruction, highway safety and bridge rehabilitation per requirements for SOGR, and an additional prioritization framework for the Abriendo Caminos and the PEMOC⁹⁵ program.

To prioritize projects in the long term, HTA has developed a project prioritization framework to include projects not part of the national highway system ("NHS") and not funded by FHWA

⁹⁵ State Highway Modernization Program (PEMOC by its Spanish acronym)

funding (Exhibit 77).⁹⁶ The framework weighs decision criteria to prioritize safety, system performance and ways to extend the life of transportation assets. It then connects these criteria to the Long-Range Transportation Plan's ("LRTP") goals. Despite developing this framework in 2019, HTA has not applied it to make robust project prioritization decisions. Application of these prioritization frameworks—not simply their development—is central to the impact of the measure. HTA should adopt the framework to continue capturing benefits and implementing necessary capital expenditures to promote economic growth.

Exhibit 77: HTA Prioritization Framework

Decision Criteria	LRTP Goal	Weight	Corresponding Objectives
Achieve a state of good repair	System Performance	30	<ul style="list-style-type: none"> Improve/maintain condition of capital assets
Improve performance of most critical corridors	System Performance; Economic Vitality; Mobility and Accessibility	25	<ul style="list-style-type: none"> Improve intersection performance, system bottlenecks and transit Increase operational capacity in a cost-effective manner Improve performance of freight and high travel corridors Prioritize the completion of projects which connect to ports and economic centers, and complete the island's strategic highway network
Resiliency, safety and emergency response	System Performance; Environmental Sustainability	20	<ul style="list-style-type: none"> Improve safety, resiliency and emergency response Improve resiliency and emergency response Reduce reliance on motorized travel, promote energy efficiency, and incorporate "reduce, reuse, recycle", practices in delivering infrastructure
Promote alternative modes of travel	Environmental sustainability; Mobility and Accessibility	15	<ul style="list-style-type: none"> Invest in redevelopment of urban centers to reduce need for motorized travel Improve coverage, capacity and service of alternative modes of travel Improve modal connectivity (first mile/last mile) Improve coverage, capacity and service of alternative modes of travel
Ensure cost effectiveness	Mobility and Accessibility	10	<ul style="list-style-type: none"> Cost effectiveness assuming mobility benefits Provide mobility for transportation-disadvantaged populations

Project delivery optimization

HTA has adopted and will expand the elements of its project delivery optimization process. The optimization process includes the following enhancements across the project lifecycle:

- **Project definition:** Adequate project definition and selection of optimal alternatives, including standard processes by project type. HTA uses standard project definition workflow for a number of project types, including Abriendo Caminos, PEMOC and emergency projects.

⁹⁶ 2020 Certified Fiscal Plan for HTA.

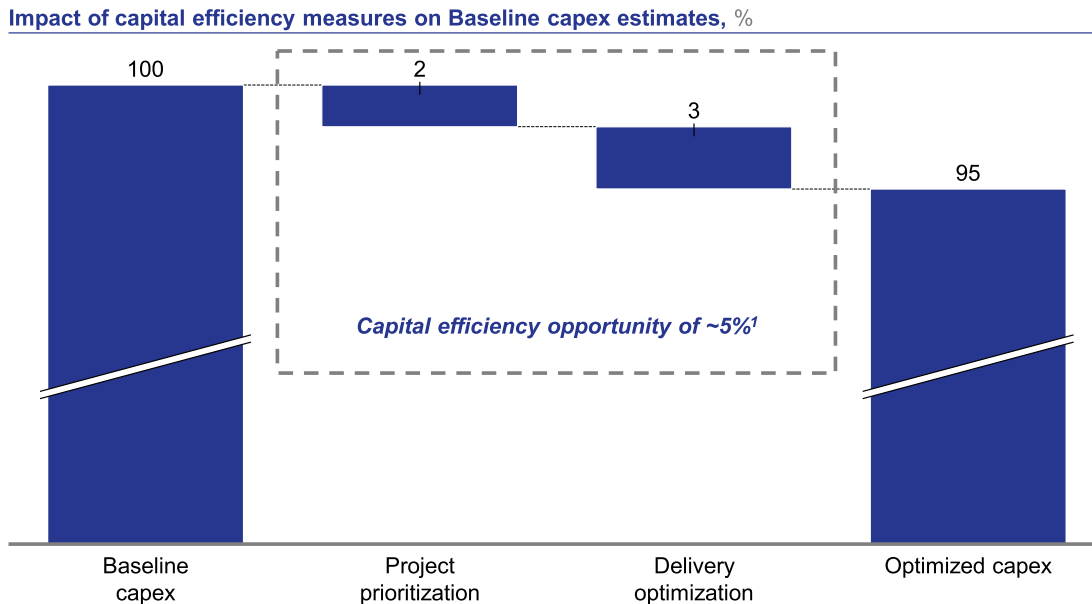
- **Pre-construction:** Comprised of (i) standard design and engineering, including standard contract packages by project type and (ii) enhanced preconstruction management, including procurement and contract approaches by project type and an adequate balance between internal and external capabilities.
- **Construction:** Enhanced construction management with an adequate balance between internal and external capabilities.
- **Closeout process:** Streamlining of the project close-out process.

Impact measurement

The processes above demonstrate significant progress by HTA in pursuing a more rigorous project prioritization process. By codifying these processes, HTA can compare itself to best-in-class transportation agencies and determine where it can increase efficiencies and gain cost savings. Per HTA's estimates, the revised project prioritization approach is expected to reflect an average savings of 5% of baseline expenses.

Through full implementation of this framework, HTA is projected to achieve \$205 million in savings from FY22 to FY51.

Exhibit 78: Capital delivery optimization opportunity



¹ Best in class project prioritization in infrastructure projects can save 7-15% while improved delivery efficiencies can reach 15-25% in savings. Based on these benchmarks, further opportunity may exist in addition to the estimate of 4% across the portfolio. The delivery optimization opportunity is discounted using the Commonwealth's inflation adjustment to account for potential increases in construction costs.

Exhibit 79: Required implementation actions for Capital Expense Optimization

Measure	Action item	Responsible party	Deadline
Optimize Capital expenses	Refine analysis to identify incremental CapEx delivery optimization and soft cost efficiency opportunities and conduct working sessions with FOMB to confirm.	HTA	Ongoing
	Propose set of projects that would benefit most from creation of standard project definition workflows (e.g., commonalities, frequencies)	HTA	Ongoing
	Propose set of projects that would benefit most from creation of standard design packages (e.g., number of stakeholders, frequencies)	HTA	Ongoing
	Identify and propose opportunities to leverage alternative procurement methods	HTA	Ongoing
	Identify capability gaps within in-house construction team	HTA	Ongoing
	Implement pilot improvements to address opportunities areas identified in capital delivery diagnostic	HTA	Ongoing
	Use standard project definition workflows for initial set of projects	HTA	Ongoing
	Use standard design packages for initial set of projects	HTA	Ongoing
	Create and propose alternative procurement RFP(s) for eligible projects	HTA	Ongoing
	Create plan to address capabilities gaps (e.g., outsourcing, training) within the construction team	HTA	March 31, 2022
	Complete FHWA-approved process improvements (e.g., pay-item sampling) to expedite invoice processing in project close-out	HTA	June 30, 2022
	Complete implementation of electronic records management system to facilitate efficient project close-outs	HTA	June 30, 2022

CHAPTER 14: PUBLIC-PRIVATE PARTNERSHIP OPPORTUNITIES

P3s are integrated service or project delivery approaches through which a public agency enters into a contractual agreement with a private sector entity to deliver a service. Under a P3 approach, the private sector entity assumes responsibility for the design, construction, financing, operations or the maintenance of facilities for the specified period while asset ownership remains with the public partner and possession reverts at the end of the concession period.⁹⁷ Puerto Rico's transportation sector underperforms in road safety, traffic congestion levels, public transit services and system integration resulting in suboptimal financial performance and overall sustainability. Given the complexity of managing an island's transportation infrastructure cost-effectively, P3s can be pursued to leverage private sector capital delivery capabilities and facilitate performance-based management.

HTA has a history of successfully utilizing concessions to improve road quality and financial sustainability. In 2017, HTA worked with Metropistas to create a 50-year toll road concession of PR-22 and PR-5, raising a total of \$1.2 billion.^{98,99} These proceeds have enabled HTA to repay \$902 million of its existing debt and reinvest the remainder into future improvement projects for the region. In addition to raising funds, Metropistas has demonstrated success with quality improvements based on improved metrics for road conditions. As of 2019, 99% of PR-22's pavement is in "good" or "fair" condition, compared to 83% for Puerto Rico's interstate system. Potential P3 transactions involving HTA's toll road assets will support continued fiscal sustainability and provide for investment in safe and high-quality transportation network. The Metropistas-operated toll roads of PR-5 and PR-22 highlight how P3 can be a tool to successfully advance these goals.

The 2022 Commonwealth Fiscal Plan calls for strategic initiatives to attract private capital. Aging infrastructure, rising capital costs, shrinking budgets, limited labor availability and constrained funding all constrain HTA's capacity to deliver a system in SOGR. By leveraging P3 concessions, HTA can accelerate the implementation of needed transportation improvements and access new sources of funding. Through concessions, the public sector can limit risks inherent to the development of infrastructure (cost overruns, schedule overruns, etc.) by sharing responsibility with the private sector.¹⁰⁰

Aligned with the objectives of the transportation sector reforms laid out in Chapter 1, concession opportunities on key roads (e.g., PR-20, PR-52, PR-53 and PR-66) will be evaluated as a potential method for HTA to secure additional capital inflows, improve operations and improve infrastructure to promote economic growth. Going forward, HTA needs to evaluate several options for executing concessions, including, but not limited to:

- Outsourcing of toll operations and hiring of a contract manager (with HTA keeping all revenues, less operating fees)

⁹⁷ DLA Piper, Public-Private Partnerships in Puerto Rico: Key Points (2017)

⁹⁸ Ibid.

⁹⁹ The \$1.2 billion sum includes the up-front payment to HTA (\$1.08 billion) and the concession agreement extension (\$115 million), which increased the revenue share.

¹⁰⁰ USDOT FHWA Office of Innovative Program Delivery, Report on Highway Public-Private Concessions in the United States (Dec.2016)

- Traditional concession agreements with a significant upfront payment
- Concession agreement with no upfront payment and including revenue share

As HTA proceeds into the P3 process and evaluates these options, the following principles, reflecting best practices in P3 transportation transactions, should guide the approach:

- Establish a formal governance structure for oversight of the P3 process
- Define clear performance objectives for the assets, including safety and quality KPIs
- Outline capital investment requirements for the private operator, to ensure adequate levels of asset upgrading and maintenance
- Set clear parameters for toll fare increases that incorporate stakeholder input and concerns related to affordability
- Ensure a competitive procurement process, seeking to engage globally recognized operators, maintaining competition throughout all phases of the process, and making use of clear qualification and de-qualification criteria

HTA must study which of its assets are eligible for concessions and commission relevant asset condition and traffic and revenue reports to determine specific areas of opportunity; HTA is allocated \$5 million over the next two fiscal years to implement these measures. HTA needs to prioritize opportunities based on its ability to improve both outcomes for road quality and the fiscal responsibility of HTA. At the same time, the P3A must ensure that all concessions / operations & management agreements signed by HTA serve the best interests of the people of Puerto Rico. The table below lays out the specific milestones that HTA needs to achieve to complete a high-quality P3 process for its toll road assets.

Exhibit 80: Required implementation actions for pursuing P3 opportunities

Measure	Action item	Responsible party	Deadline
Pursue P3 opportunities	Evaluate and prioritize potential areas for additional concessions led by 3 rd party.	HTA/P3A	Ongoing
	Finalize due diligence process and desirability and convenience study .	HTA/P3A	Ongoing
	Evaluate different potential deal structures using variety of scenarios within fiscal plan constraints. Finalize and share with FOMB detailed opportunity by opportunity execution plan for prioritized concession opportunities.	HTA/P3A	April 30, 2022
	Launch RFP(s) for prioritized concessions	P3A	Based on execution plan and aligned with legal constraints
	Begin first new concession agreement	HTA/P3A	Based on execution plan and aligned with legal constraints

PART VII – LIQUIDITY SITUATION

CHAPTER 15: CASH POSITION OF HTA BEFORE CW TRANSFER

Due in part to the effects of the COVID-19 pandemic, HTA did not execute the full scope of its planned FY21 capital program. The surplus thereby generated in FY21 should be deployed in the coming years on planned projects that were obligated in FY21, for which funding has not yet been disbursed. These projects will have disbursements as the CIP returns to historical spending levels.

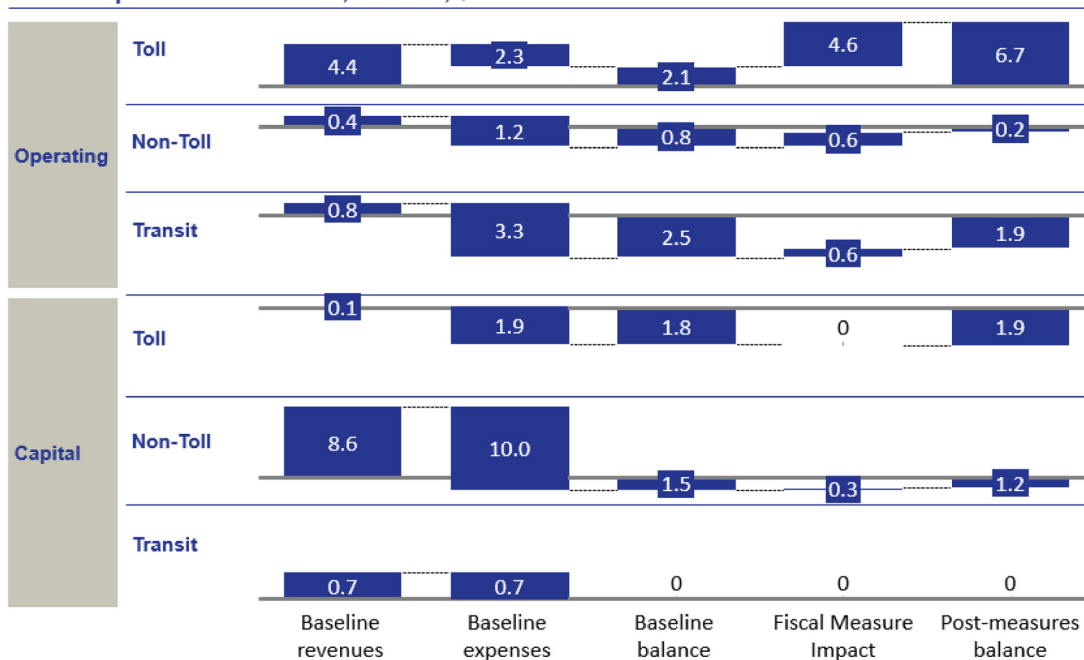
If HTA fully and promptly implements all the measures in the 2022 HTA Fiscal Plan, it is expected that HTA could achieve operational surpluses as early as FY23. From FY22 to FY51, the 2022 HTA Fiscal Plan projects an average operational surplus of approximately ~\$150 million and a capital deficit of about ~\$110 million per year. The projected surplus is limited to the toll-entity, however, with non-toll assets and transit assets requiring the annual CW transfer to remain solvent based on the forecasted expenditures.

If the measures outlined in the 2022 HTA Fiscal Plan are not implemented, the Authority will likely have an annual operational deficit across all three asset classes of approximately ~\$40 million and an average capital deficit of approximately ~\$110 million per year from FY22 to FY51. This situation would be financially unsustainable and could jeopardize Puerto Rico's future infrastructure development. It would also lead to deteriorating road conditions and worsening congestion.

Under both scenarios (full implementation or lack thereof), the projected net deficit puts at risk HTA's capability of delivering transit and transportation investments needed to improve Puerto Rico's overall economy without the transfers from the CW described herein.

Exhibit 81: Pre-CW Operating Transfer Financial Performance of HTA FY22-FY51

Financial performance of HTA , FY22-51, \$B



CHAPTER 16: COMMONWEALTH FISCAL SUPPORT

Commonwealth transfer for non-toll assets

In line with the 2021 Fiscal Plans for both HTA and the Commonwealth, the 2022 Fiscal Plans contain an annual transfer that support HTA's non-toll roads and transit assets cover their operational expenses and address their capital needs. This funding level has been maintained at the same dollar values as in the 2021 HTA Fiscal Plan, consistent with the Commonwealth's own fiscal plan projections. Due to the Commonwealth's own fiscal challenges as set forth in its certified Fiscal Plan, the Commonwealth is unable to transfer any funds to HTA for any other purpose. As detailed in the Commonwealth 2022 Fiscal Plan:

"[The Commonwealth 2022 Certified Fiscal Plan] increases the HTA operating transfer to cover the full cost of non-toll assets, marking the first step towards the implementation of the Transportation System Reform. The appropriation does not include funding for the HTA emergency reserve, nor does it draw down existing balances. It also assumes toll roads have access to federal funds until reorganization is complete (assumed FY23), but not thereafter... The Commonwealth operating transfer may be reduced in a proportionate amount must the Federal Highway Administration (FHWA) federal funding for non-toll assets appropriated to HTA increase.

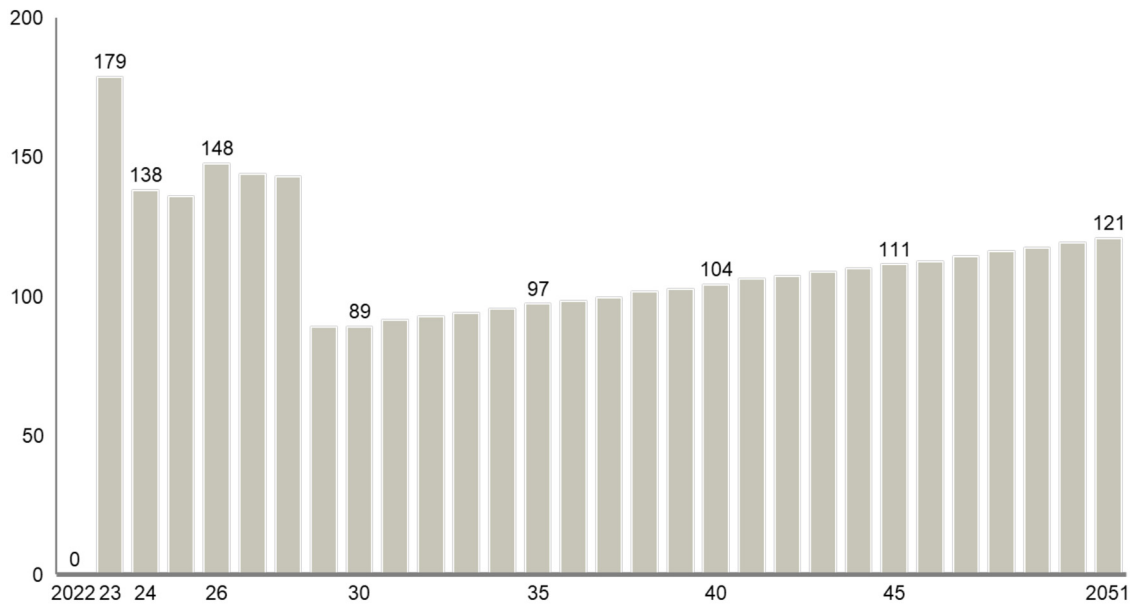
The HTA operating transfer is intended to be used by HTA solely to fund costs associated to non-toll assets and is not available to be used for any other purposes, including funding costs and projects above and beyond those contemplated in HTA's Certified Fiscal Plan."

Historically, the Commonwealth funded an emergency reserve equal to three to six months of operational and capital delivery required funding. The emergency reserve will no longer be funded due to the fiscal constraints faced by the Commonwealth. Currently, HTA has a restricted reserve for emergencies and unforeseen events to respond in circumstances beyond HTA's control. In the case of an extraordinary event like a natural disaster where the Authority incurs in expenditures above their current restricted reserve for emergencies and unforeseen events, HTA can also access the Commonwealth Emergency Reserve Fund to secure their response to declared events in Puerto Rico.

The Commonwealth provides funding to HTA in line with its vision of the future transportation sector reform. The funding, therefore, is tied to the estimated level of investment to maintain the non-tolled roads and transit assets, as the toll roads can fund own operating and capital expenses. The level of funding is based on the estimated apportionment of costs and revenues between asset classes and is subject to further refinement, particularly as capital project plans are finalized. From FY22-26 the Commonwealth transfer averages \$150 million per year, on top of the \$55 million per year in regular CapEx appropriation. Across the full FY22-51 period, the 2022 HTA Fiscal Plan assumes an operating transfer of \$3.3 billion. These transfer amounts match the levels in the 2022 Commonwealth Fiscal Plan.

Exhibit 82: Annual Commonwealth Operating Transfer to HTA, FY22-51

Annual CW operating transfer, FY22-51 \$M



Commonwealth loan to support Plan of Adjustment payments

In addition to the general Commonwealth transfer, the Commonwealth will also provide a one-time loan to HTA for FY2022 in the amount of \$314 million to ensure HTA's liquidity upon confirmation of the Commonwealth Plan of Adjustment ("POA"). While the exact repayment terms have not yet been determined, the 2022 HTA Fiscal Plan assumes a 30-year subordinated loan repayment for illustrative purposes that will be updated once the loan details are finalized.

The repayment of this loan is expected solely from the surplus generated by the toll assets over time. Interest is expected to be paid semi-annually, commencing January 1, 2023, while principal is expected to amortize annually commencing in FY2023. Given the Commonwealth loan is subordinated to the interests of other creditors in such surplus, the ultimate repayment structure may need to be adjusted depending on the ultimate confirmation of HTA's POA. The Commonwealth loan repayment schedule is therefore considered illustrative pending finalization of the HTA POA.

PART VIII – DEBT SUSTAINABILITY

CHAPTER 17: POST-MEASURES DEBT SUSTAINABILITY

HTA is currently carrying approximately \$6.6 billion in debt. Since HTA entered Title III in May 2017, HTA has had insufficient cash flows to service its outstanding debt and as a result has not made payments since July 2017. HTA's revenues are insufficient to fund its operating expenses, projected capital improvement needs and an emergency reserve, leading to a cumulative pre-measures deficit of \$1.2 billion. Given that the Commonwealth's own fiscal challenges during this period will preclude any further appropriations to HTA, HTA's existing debt is not sustainable and requires significant adjustment under Title III.

With the implementation of the measures described in 2022 HTA Fiscal Plan, the toll road management office is projected to have a cumulative surplus of \$4.8 billion. Following a near-term period of operating deficits as fiscal measures are implemented, HTA is expected to have operational surpluses that will fund a greater share of capital needs from its own resources. Further assistance from the Commonwealth, however, will be required for capital and reserve requirements for the entire 30-year period.

The amount of net revenues available for other needs besides implementation of the crucially important SOGR capital improvement program, such as the payment of debt service, are also highly dependent on the Authority achieving additional positive cash flow to enable HTA eventually to operate at a surplus without the projected Commonwealth variable transfer requirement. The Fiscal Plan utilizes the following matrix to illustrate the implied debt capacity over a 40-year period assuming level debt service at differing coupon levels and varying hypothetical levels of net revenues available for debt service throughout the 30-year period. For example, if the net revenues available for debt service are \$50 million for 40 years and the coupon level is 5%, the implied debt capacity would be \$858 million. For purposes of this matrix analysis, the Fiscal Plan analyzes the debt capacity to the assumed net revenues at 1.0 times coverage to debt service¹⁰¹.

Exhibit 83: Implied debt capacity

<ul style="list-style-type: none"> The following matrix illustrates, for varying coupon levels and primary surplus, or net revenue, figures, the amount of restructured HTA debt that could be supported by that surplus level. The matrix assumes a 40-year, level debt service payment structure and only one-time coverage of net revenues to debt service. 	Illustrative Cash Flow Available	Sensitivity Analysis: Implied Debt Capacity at 1.0x Coverage			
		\$25	\$50	\$75	\$100
	4.0%	\$495	\$990	\$1,484	\$1,979
	5.0%	\$429	\$858	\$1,287	\$1,716
	6.0%	\$376	\$752	\$1,128	\$1,505

Sensitivity Analysis: PV rate %

Values in USD millions

¹⁰¹ Any HTA debt will have coverage from net revenues - 1.0x implied debt capacity is for illustration purposes.

APPENDIX A – P&L APPORTIONMENT ASSUMPTIONS

The exhibits below provide the methodological approach to the apportionment allocations and detailed line-item allocations that were developed by FOMB in collaboration with HTA.

Exhibit 84: Line-item asset apportionment methodology

Line item	Approach	Resulting apportionment		
		Toll roads	Non-toll roads	Transit
Four road toll revenue	• Assign revenue from PR-20, PR-52, PR-53 and PR-66 to toll entity	100%	0%	0%
Concession revenue and obligations	• Assign revenues and costs associated with PR-5, PR-17, PR-22 and DTL under non-toll P&L	0%	100%	0%
Toll fines	• Assign fines from PR-20, PR-52, PR-53 and PR-66 to toll entity and keep all other fines under non-toll P&L	40%	60%	0%
Salaries & pensions	• Apply reasonable allocation assumptions to the functional split of labor costs in HTA's FY21 Budget (e.g., allocating construction salaries according to Capex share and non-construction salaries in line with breakdown of operating expenses excl. labor, with pensions reflecting weighted average construction and non-construction)	12%	88%	0%
		<i>Construction salaries & benefits</i>		
		31%	43%	26%
		<i>Non-construction salaries & benefits</i>		
		19%	71%	10%
		<i>Pensions</i>		
SOGH highway Capex costs	• Allocate costs according to HTA's CIP plan before TSR implementation date; assign 82%% of all costs to non-toll entity thereafter (in line with third-party report)	18%	82%	0%
Regular FHWA and CW Capex funds	• Allocate funds according to HTA's CIP plan before TSR implementation date; assign all funds to non-toll entity thereafter	0%	100%	0%

Exhibit 85: Line-item asset apportionment allocations

Line item		Resulting apportionment			Basis for apportionment
		Toll roads	Non-toll roads	Transit	
Operating revenues	Four toll road revenue	100%	0%	0%	Fare revenue from HTA operated toll roads (e.g. PR-20, PR-52, PR-53, PR-66) to toll road entity
	Concession revenue and obligations	0%	100%	0%	Metropistas, concessionaire, Teodoro Moscoso, DTL to non-toll
	Transit revenues	0%	0%	100%	All transit revenues to transit entity
	Toll fines revenue total	40%	60%	0%	Fine revenue from HTA operated toll roads (e.g. PR-20, PR-52, PR-53, PR-66) to toll road entity; fine revenue from all other toll roads to non-toll entity
	Other income	42%	48%	10%	Apportioned at the subline-item level on the basis of historical accounting analysis
	Operating FTA funds	0%	0%	100%	FTA monies to fund transit entity
Clawback revenues	Gasoline Tax	100%	0%	0%	Revenues allocated based on management discussion, confirmed on the basis of historical accounting analysis; all dollars ultimately flow to CW with no financial impact on HTA FP
	Diesel Tax	100%	0%	0%	
	Petroleum Products Tax	100%	0%	0%	
	Cigarettes taxes	0%	100%	0%	
	Motor Vehicle License Fees	100%	0%	0%	
	Act 30 - Licenses	100%	0%	0%	

Exhibit 86: Line-item asset apportionment allocations (continued)

		Resulting apportionment			
Line item		Toll roads	Non-toll roads	Transit	Basis for apportionment
Operating expenses	Construction salaries and related benefits	12%	88%	0%	Based on HTA analysis, applies reasonable allocation assumptions to the functional split of labor costs in HTA's FY21 Budget (e.g., allocating construction salaries according to Capex share and non-construction salaries in line with breakdown of operating expenses excl. labor)
	Non-construction salaries and related benefits	31%	43%	26%	
	Pension costs	19%	71%	10%	Based on HTA analysis, reflecting weighted average of construction and non-construction salaries
	Right of Way Payments	18%	82%	0%	
	Litigation Reserve	18%	82%	0%	Aligned with share of forecasted highway CapEx across toll and non-toll roads
	Other construction program expenses	18%	82%	0%	
	Toll highways administration and maintenance	98%	2%	0%	One sub-item (repair and maintenance of motorway) partly allocated to toll entity (28%) – other items fully assigned to toll-entity according to historical accounting analysis
	Train operating and maintenance costs	0%	0%	100%	
	ITS	0%	0%	100%	100% dedicated to transit entity
	Other operating expenses	55%	31%	14%	
					Transit entity allocation according to historical accounting analysis, remainder allocated among toll/non-toll entities in line with share of lane miles among NHS roads

Line item		Resulting apportionment			Basis for apportionment
		Toll roads	Non-toll roads	Transit	
Capital contributions	FHWA Funds	Various	Various	0%	Allocated on the basis of specific projects until implementation of TSR, then all funds to non-toll to ensure financial independence of toll entity and financial solvency of non-toll entity
	Main CW CapEx Appropriation	Various	Various	0%	
	Other CW State Funds	10%	90%	0%	
	Federal Emergency Revenues	Various	Various	0%	Based on management discussion, HTA analysis
	CapEx FTA funds	0%	0%	100%	
Capital expenses	Right of Way	Various	Various	0%	Allocated according to specific projects until implementation of TSR, then 18% of expenses allocated to non-toll entity based on forecasted share of highway CapEx according to third-party report
	Federal Hard Costs	Various	Various	0%	
	Non-Federal Hard Costs	Various	Various	0%	
	Non-Federal Soft Costs	Various	Various	0%	
	Federal Soft Costs	0%	100%	0%	Fully allocated to non-toll entity based on HTA analysis, assumes all highway transportation planning will be conducted by non-toll entity
	Local Construction	0%	100%	0%	
	Federal Emergency Repair Program	Various	Various	0%	Allocated according to specific projects
	Local Emergency Repair Program	20%	80%	0%	
	Toll Optimization CIP	100%	0%	0%	100% to toll entity
	Transit CIP	0%	0%	100%	100% to transit entity

APPENDIX B – IMPLEMENTATION PLAN & REPORTING REQUIREMENTS

Post-Certification Reporting Requirements for HTA

To rigorously track the Fiscal Plan's implementation, and in support of HTA's improved fiscal governance, HTA will submit periodic budget to actuals (B2A) reports to the FOMB as required by section 203(a) of PROMESA. To facilitate the Oversight Board accurately estimates projected revenues and expenditures going forward, HTA will need to submit monthly B2A reports to the FOMB. These will be due no later than the 15th day after the end of each month. The reports must reflect: i) Budget to Actuals performance; ii) liquidity; iii) bank balances; iv) CapEx obligations; v) progress in executing the Fiscal Measures of this Plan; vi) progress in executing capital delivery; vii) changes in headcount; viii) metrics of organizational productivity; ix) progress in executing HTA's MOUs with FHWA and EFL; and x) toll road traffic volume. The FOMB, with some exceptions, has been pleased with HTA's adherence to these reporting requirements to-date and has found the data provided by HTA a valuable tool to monitor performance and implementation of the Fiscal Plan.

Budget to Actuals (B2A) Performance: HTA must use a template from FOMB to report its Year to Date (YTD) performance across all items in its Certified Budget. The Authority must also use another FOMB template to disclose additional details on certain budget items like CIP costs, operating expenses and professional fees.

Liquidity: HTA must provide a liquidity report that includes actual cash flows by week for YTD and forecasted until the end of the Fiscal Year. All cash flows (receipts and disbursements) must be shown under the same classification that is followed in the Authority's Certified Budget. This will make it easier to track HTA's B2A performance on a cash basis; these must also be clearly separated into an OpEx and CapEx component.

Bank Balances: HTA must disclose all changes in its bank account balances and classify all bank accounts as capital or operational. In addition, it must show how these changes correspond to the cash flows laid out in its Liquidity report and use a template from the FOMB to display the projected impact of any funds that are in transit at the time of the report.

CapEx Obligations: HTA must disclose the amount of CapEx funds that are obligated for capital expenses at the end of each month and how these funds break down by project.

Fiscal Measures: HTA must provide an update on the progress of the Fiscal Measures that are included in this Plan, including the revenues/cost savings achieved by implementing the measures YTD. The Authority must provide a detailed justification for any measure's underperformance, describe the main reasons it is behind and lay out a path for getting its implementation back on track.

Capital Delivery (Pre-Construction): HTA must report, at a minimum, the following information for every project in the Pre-Construction phase: i) the unique identifier for the project (AC Code); ii) the description of the project (e.g., pavement rehabilitation, or bridge reconstruction); iii) the project's classification under one of the categories recognized in this Fiscal Plan (e.g., PEMOC, FHWA and/or Abriendo Caminos); iv) the miles and roads affected by the project; v) the programmed bid opening date; vi) the actual bid opening date; vii) the programmed bid award date; viii) the actual bid award date; ix) the programmed NTP letter date; x) the actual NTP letter date; xi) the contractor in charge of the project; xii) the engineer estimate for the project cost; and xiii) the actual bid cost. HTA must also provide any other

information about the pre-construction process that the FOMB might request during the course of the Fiscal Year.

Capital Delivery (Construction): HTA must report, at a minimum, the following information for every project that is in the Construction phase: i) the unique identifier for the project (AC Code), ii) the description of the project (e.g., pavement rehabilitation, or bridge reconstruction); iii) the project's classification under one of the categories recognized in this Fiscal Plan (e.g., PEMOC, FHWA and / or Abriendo Caminos); iv) the miles and roads affected by the project, v) the region of the project (e.g., North, East, South, West), vi) the longitude and latitude of the project, vii) the original cost of the project, viii) the revised cost of the project, ix) the amount of dollars already disbursed, x) the original date of project completion, xi) the revised date of project completion, xii) the contractor in charge of the project, xiii) the HTA employee in charge of the project. HTA must also provide any other information about the construction process that the FOMB might request during the Fiscal Year. This includes rolling out a CapEx dashboard that will enable stakeholders of the system to understand where improvements are ongoing as well as the performance of various projects.

Headcount: HTA must disclose the number of employees that enter and leave the Authority during each month. It must inform the FOMB about their division (e.g., Construction, Finance) and professional role (e.g., Engineer, Secretary).

Organizational Productivity: HTA must disclose the number of employees by division per millions of CapEx dollars disbursed during each month. It must also report the following information for the personnel in its construction-related divisions. It will need to develop a template to report: i) the number of employees (broken down by professional role) working on each project during each project phase and ii) the number of projects each employee oversees (including hours dedicated to each project, if applicable).

FHWA - HTA MOU: HTA must provide an update on the progress of the initiatives outlined in its MOU with FHWA. At a minimum, this update must include the initiative's launch date, estimated completion date and the work performed on it during each month. The Authority must also provide a detailed justification for any delays in MOU implementation, describing the main drivers of the delay and providing a plan of actions path that will get MOU implementation back on track. It must also disclose any other information about its MOU with FHWA that the FOMB might request during the course of the Fiscal Year.

EFL - HTA MOU: HTA must provide an update on the progress of its collaboration with EFL. More specifically, HTA must report the following information for every EFL project: i) the unique identifier of the project (AC Code), ii) the region of the project, iii) the miles and the roads affected by the project, iv) the original cost of the project, v) the revised cost of the project, vi) the amount of dollars already disbursed, vii) the original date of project completion, viii) the revised date of project completion. The Authority must also provide a detailed justification for any delays on these collaborative projects with EFL. It needs to describe the main reasons for the delays and a plan of action to get back on track.

Toll Road Traffic Volume: HTA must report the monthly volume of vehicle traffic in all the toll roads of Puerto Rico, regardless of whether these roads are partly or wholly owned by concessionaires.

Project-level capital performance: HTA must report its progress against capital delivery on a project-by-project basis once the necessary IT and finance reporting infrastructure is in place to do so.

Exhibit 87: Post-certification reporting requirements (financials & traffic volume)

Post-certification reporting requirements (Financials & traffic volume)			
Report type	Detail	FOMB reporting cadence	Public reporting
Budget to Actuals	<ul style="list-style-type: none"> Report Year to Date (YTD) performance across all items in the Certified Budget Disclose additional details on certain budget items like CIP costs, operating expenses, and professional fees 	Monthly	Monthly
Liquidity & bank balances	<ul style="list-style-type: none"> Provide a liquidity report that includes actual cash flows by week for YTD and forecasted until the end of the Fiscal Year, using the same classification of revenues and expenses as the Certified Budget Disclose all changes in bank account balances and classify all bank accounts as capital or operational Show how changes in bank balances correspond to cash flows and display the projected impact of any funds that are in transit at the time of the report 	Monthly	Monthly
Fiscal measures	<ul style="list-style-type: none"> Provide an update on the progress of the Fiscal Measures that are included in this Plan, including the revenues / cost savings achieved by implementing the measures YTD Provide a detailed justification for any measure's underperformance, describe the main reasons it is behind, and lay out a path for getting its implementation back on track 	Monthly	Monthly
Toll road traffic	<ul style="list-style-type: none"> Report the monthly volume of vehicle traffic in all the toll roads of Puerto Rico 	Monthly	Monthly

Exhibit 88: Post-certification reporting requirements (labor data and MOU obligations)

Post-certification reporting requirements (Labor data and MOU obligations)			
Report type	Detail	FOMB reporting cadence	Public reporting
Headcount	<ul style="list-style-type: none"> Provide information on all headcount changes (openings, additions, exits, closings) Classify all headcount changes by division and by professional roles 	Monthly	Monthly
Organizational productivity	<ul style="list-style-type: none"> Disclose number of employees by division per Million of CapEx dollars disbursed Provide the number of employees (broken down by professional role) working on each project during each project phase Provide the number of projects overseen by each employee (including hours dedicated to each project) 	Monthly	Monthly
FHWA – HTA MOU	<ul style="list-style-type: none"> Provide an update on the progress of initiatives outlined in the FHWA – HTA MOU, including: a) Launch date of each initiative, b) Estimated completion date of each initiative and c) Work performed on each initiative during each month Explain drivers of underperformance and lay out a path for getting implementation back on track 	Monthly	Monthly
EFL – HTA MOU	<ul style="list-style-type: none"> Provide an update on collaboration with EFL, including: a) Unique identifier of each EFL project (AC Code), b) Region of the project, c) Miles and roads affected by the project, d) Original cost of the project, e) Revised cost of the project, f) Amount of dollars already disbursed, g) Original date of project completion, h) Revised date of project completion 	Monthly	Monthly

Exhibit 89: Post-certification reporting requirements (capital delivery)

Post-certification reporting requirements (Capital delivery)			
Report type	Detail	FOMB reporting cadence	Public reporting
Capital delivery (pre-construction)	<ul style="list-style-type: none"> Provide the following information for every project in the pre-construction phase: a) Unique identifier of the project (AC Code), b) Description of the project (e.g., pavement rehabilitation, bridge reconstruction etc.), c) Classification of the project under one of the categories recognized in this Fiscal Plan (e.g., PEMOC, FHWA, Abriendo Caminos), d) Miles and roads affected by the project, e) Programmed bid opening date, f) Actual bid opening date, g) Programmed bid award date, h) Actual bid award date, i) Programmed NTP letter date, j) Actual NTP letter date, k) Contractor in charge of the project, l) Engineer estimate for project cost, m) Actual bid cost Provide any other information that might be requested by the FOMB 	<ul style="list-style-type: none"> Monthly 	<ul style="list-style-type: none"> N/A
Capital delivery (ER construction)	<ul style="list-style-type: none"> Provide a list of active construction and pre-construction projects and disbursements 	<ul style="list-style-type: none"> Monthly 	<ul style="list-style-type: none"> N/A
CapEx obligations	<ul style="list-style-type: none"> Disclose the amount of funds that are obligated for capital expenses, broken down by project 	<ul style="list-style-type: none"> Monthly 	<ul style="list-style-type: none"> N/A

Exhibit 90: Post-certification reporting requirements (capital delivery)

Post-certification reporting requirements (Capital delivery)			
Report type	Detail	FOMB reporting cadence	Public reporting
Capital delivery (construction)	<ul style="list-style-type: none"> Provide the following information for every project in the construction phase: a) Unique identifier of the project (AC Code), b) Description of the project (e.g., pavement rehabilitation, bridge reconstruction etc.), c) Classification of the project under one of the categories recognized in this Fiscal Plan (e.g., PEMOC, FHWA, Abriendo Caminos), d) Miles and roads affected by the project, e) Region of the project (e.g., North, East, South, West), f) Longitude and latitude of the project, g) Original cost of the project, h) Revised cost of the project, i) Amount of dollars already disbursed, j) Original date of project completion, k) Revised date of project completion, l) Contractor in charge of the project, m) HTA employee in charge of the project Provide any other information that might be requested by the FOMB 	<ul style="list-style-type: none"> Monthly 	<ul style="list-style-type: none"> N/A
Capital delivery (Public dashboard)	<ul style="list-style-type: none"> Provide a list of active projects across all program types (i.e., Federal, State, ER, EFL) Describe progress completed during the month with key project information (e.g., NTP date, expected cost and completion date, delays and cost overruns, region and type of the project) 	<ul style="list-style-type: none"> Monthly 	<ul style="list-style-type: none"> Monthly

APPENDIX C – EASTERN FEDERAL LANDS MEMORANDUM OF UNDERSTANDING

OBLIGATIONS, RESPONSIBILITIES AND FUNDING

A. The PRHTA agrees to:

1. Designate a point of contact with decision-making authority so that all communication regarding the Work will be coordinated and managed through such person;
2. Provide the required funding for the Work through assigned ER funds, PRHP funds, or other funding sources as appropriate and as determined by PRHTA;
3. Allow EFLHD to pay for all costs related to meeting federal requirements as well as for the management, design and construction of the Work. Costs should include, but are not limited to, preparation of the environmental documentation, permits and other clearances, design, construction, construction engineering and other related engineering, program and project administration activities;
4. Provide design assistance to EFLHD and its designees, participate in progress meetings, design field reviews and approvals and final construction inspections, as required;
5. Review and comment on the scope, prioritization, schedule, budget and subsequent updates of the proposed projects within the timelines requested by EFLHD;
6. Maximize use of existing permit exemptions and programmatic agreements by providing guidance and general assistance to EFLHD and its designees in the preparation of permits and when necessary, submitting permit applications to obtain clearances from all permitting agencies in the Commonwealth of Puerto Rico and Municipalities;
7. Assist EFLHD and its designees in preparing permit applications to obtain all required federal permits and clearances;
8. Acquire necessary right-of-way (ROW);
9. Coordinate and execute utility agreements to provide timely relocations;
10. If the actual costs of the Work are anticipated to exceed the estimates in the approved DDIRs, the PRHTA and EFLHD agree to utilize one or more of the following options:
 - a. EFLHD and PRHTA may revise the budget to reflect the new estimate(s) and PRHTA will transfer additional funds needed to complete the construction of the Work. EFLHD will request additional funds in time to have them in place before funds are exhausted. PRHTA will determine the type of supplemental funds to be transferred based on the availability of funding at the time of request to ensure compliance with the Anti-Deficiency Act (31 U.S.C. § 1341(a)(1)).
 - b. Reduce the scope of work such that available funding is sufficient to cover the estimated costs.
 - c. EFLHD may cease work on the unfunded aspects of the Work: or
 - d. Any combination of (a), (b) or (c).
11. In addition, for projects designed by PRHTA and its designees:
 - a. Provide all Plans, Specifications and Estimate (PS&E) packages for general EFLHD review and comments. Address comments provided by EFLHD and provide a written explanation of how each comment was addressed within the timelines requested by EFLHD;
 - b. Provide ready for procurement/construction PS&E packages in Federal Fiscal Year 2019 (FY19) addressing all EFLHD comments. For projects to be advertised for construction in FY19, provide the final PS&E a minimum of 3 months before the quarter

in which the project is to be advertised. The PS&E package includes, but is not limited to:

- i. Project priority list that organizes PS&E packages in order of priority for PRHTA;
 - ii. Plans, specifications, construction cost estimates, design technical reports, quantity calculations, NEPA documentation, permits, agreements and clearances from federal and local governments;
 - iii. PS&E package certification indicating that all projects issues related to design, NEPA, permitting, ROW and utilities have been addressed and the projects are ready for construction;
- c. Assist answering bidder questions within 3 working days, when assistance is requested. Assist in other aspects of the procurement process as needed; and
 - d. Provide technical assistance as needed to respond to issues during construction within the timelines requested by EFLHD.
12. Participate in monthly status meetings as required.
13. Throughout the course of EFLHD's delivery of projects, EFLHD, PHRTA and FHWA-PR/USVI will work together to identify opportunities for peer exchanges, technical support training and education to PHRTA's staff.

B. The FHWA-PR/USVI agrees to:

1. Provide federal-aid funding for the Work including ER and other Puerto Rico Highway Program funds as appropriate and approve the transfer of funds from the PRHTA ER funds to the EFLHD prior to the start of any work by EFLHD as presented in the Financial Plan;
2. Delegate to EFLHD the approval of all federal actions including but not limited to:
 - a. National Environmental Policy Act (NEPA) documentation and permits;
 - b. ROW plans and administrative review of ROW acquisition and utility relocation activities by PRHTA, when applicable;
 - c. The statements of work and award of any consultant contracts for the Work;
 - d. Final PS&Es for advertisement, all contract administration efforts, construction inspections and approval of the completed project; and
 - e. Authorization for contract awards, contract administration, contract modifications, inspection, project acceptance and contract completion.
3. Provide guidance on ER funding eligibility when requested;
4. Keep track of projects authorized based on the approved ER program;
5. Review and update the DDIRs if a change in scope occurs or there is an increase of twenty (20) percent from the original estimates;
6. Participate in EFL's FIRE and reviews as required or requested by EFL;
7. Participate in monthly status meetings;
8. Throughout the course of EFLHD's delivery of projects, EFLHD, PHRTA and FHWA-PR/USVI will work together to identify opportunities for peer exchanges, technical support training and education to PHRTA's staff.

C. EFLHD agrees to:

1. Be the lead federal agency for applicable federal actions, project development and overall coordination of the Work;
2. Be responsible to meet timetable and delivery budgets while ensuring full compliance with applicable federal laws and regulations;
3. Accept funds as defined in Article III of this agreement;
4. Coordinate and develop the scope, schedule and budget for the delivery of the sites,

evaluate project development approach and proceed with procurement as deemed best by EFLHD;

5. Procure and administer any consultant assistance contracts deemed necessary;
6. Review PS&E packages and provide technical support for quality control (QC) of work;
7. For projects to be designed by EFLHD:
 - a. Conduct survey and mapping necessary for design activities;
 - b. Conduct subsurface investigations;
 - c. Lead the preparation of environmental documents required by the NEPA, as amended and 23 CFR 771, including the Environmental Impact Statement / Record of Decision, Categorical Exclusion, Environmental Assessment / Finding of No Significant Impact and 4(f) Evaluation and coordinate the necessary approvals for Section 106 of the National Historic Preservation Act, the Endangered Species Act and the Clean Water Act;
 - d. Prepare environmental permit applications as required;
 - e. Prepare necessary ROW documentation for PRHTA to acquire any necessary ROW
 - f. Develop and administer utility agreements, if necessary;
 - g. Prepare preliminary and final PS&E packages for the Work using PRHTA design standards and specifications.
 - h. Evaluate the resiliency of the proposed replacement and consider incorporating cost effective features that will make the facilities more resilient and reduce the risk of damage from future events. Document all resiliency measures implemented as required in the ER Manual.

For projects designed by PRHTA:

- a. Provide Geotechnical and Structural Engineering reviews for the regular landslide projects;
 - b. Provide general reviews of PS&E packages, as deemed necessary;
 - c. Develop Administrative Contract Specifications to add EFLHD's procurement and contract administration requirements on the projects; and
 - d. Packaging/bundling the projects for bidding;
9. Provide brief written status reports on a monthly basis to PHRTA, FHWA PR/USVI, and the USDOT Transportation Recovery Representative on the Work;
 10. Advertise and award the construction contract(s);
 11. Administer the construction contract(s), including necessary construction engineering and inspection (CEI);
 12. Process payments to consultants, contractors and utility companies, as applicable;
 13. Conduct final inspection of the Work;
 14. Promptly initiate close-out and return unexpended funds once final costs for the Work are known, including the transfer of the facilities after acceptance by the owner;
 16. Coordinate with PRHTA's National Bridge Inventory program manager to ensure all load rating work will meet Puerto Rico's legal load requirements as well as Emergency Vehicle loadings as established in the FAST Act.
 17. Use SP-934 specification for all structural concrete work
 18. Throughout the course of EFLHD's delivery of projects, EFLHD, PHRTA and FHWA-PR/USVI will work together to identify opportunities for peer exchanges, technical support training and education to PHRTA's staff.

APPENDIX D – POTENTIAL DRIVERS OF FUTURE REVENUES

Traffic volumes in HTA's road network and therefore its toll fare revenue, are forecast to grow long term primarily based on inflation and GNP projections. However, there are several macroeconomic trends in the transportation sector which may cause actual traffic volume growth through FY51 to be lower in the long term than current projections. As a result, HTA needs to continue to monitor and may consider additional factors to update future forecasts. Considerations including (1) a shift to public transit; (2) vehicle ownership patterns; (3) commuting behaviors; and (4) autonomous vehicle uptake may impact traffic volumes and consequently HTA's revenue baseline, in the long term.

1. **Shift to public transit:** Adoption of the transportation sector reforms is the first step in a shift to make public transit a viable and accessible option in the long term for commuters in Puerto Rico. Once the impact of the reforms is reflected, it is anticipated that Puerto Rico will witness an increase of public transit users, thus yielding increased revenues for both TU and the feeder bus route. For instance, if San Juan were to perform at the average US city level, 37,000 more households would commute more sustainably.¹⁰² However, this change could be coupled with a shift away from private vehicles, which might have a potential negative impact on toll revenues.
2. **Vehicle ownership patterns:** In the past few years, ridesharing has become an affordable and increasingly accessible option for transportation. Increased uptake of ridesharing platforms may reduce private vehicle ownership and as a result, overall traffic levels would decline over time. Changed ownership patterns might have a negative impact on toll revenues in the long term.
3. **Commuting behaviors:** The impact of COVID-19 initially decreased traffic volumes in Puerto Rico, especially during the end of FY20 at the height of the pandemic. While Puerto Rico is now witnessing a gradual return to normal traffic levels, a move to hybrid work-from-home may result in lower traffic levels long term. Decreased commuter traffic may result in marginally lower traffic volumes for toll roads, negatively impacting toll revenues, as well as lower transit system use, negatively impacting transit revenues through FY51.
4. **Autonomous vehicle adoption:** Autonomous vehicle technologies are developing rapidly. One key assumption with autonomous vehicle adoption and owner behavior is the reduced value of saved time, thus disincentivizing use of toll roads at current rates. This may have a potential negative impact on congestion-relieving toll roads in the long term as autonomous vehicles witness increased uptake.¹⁰³

Collectively, the aforementioned factors would likely decrease toll fare revenues over the long term, though the decline may be somewhat offset by increased transit fare revenue following greater use of the public transportation system. While current projections account for factors of economic and population growth, future estimates of traffic patterns may consider these factors to arrive at a more accurate baseline projection.

¹⁰² Includes carpooling, walking, bicycling and public transit. The current U.S. average is 27% of households commuting sustainably, up from San Juan's current 22% of households.

¹⁰³ <https://www.fitchratings.com/research/us-public-finance/the-effect-of-automated-vehicles-on-toll-roads-automated-vehicles-are-likely-positive-congestion-reliever-toll-roads-are-most-vulnerable-03-02-2020>